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THE GROWING MENACE OF BENZENE (BENZOL) POISONING IN AMERICAN INDUSTRY

ALICE HAMILTON, M.D.

BOSTON

Up to 1914, comparatively little coal-tar benzene (benzol, C_6H_6) was used in the United States. Because of its solvent properties, it has long been employed on the continent and to a less extent in England in the manufacture of rubber goods and of quick-drying paints and for dry cleaning. But we had not yet begun to produce it ourselves; we imported it from Germany, it was more than twice as expensive as the petroleum solvents, and we therefore used the latter for the great majority of industrial processes.

The outbreak of the war did two things: It shut off the supply from Germany not only of benzene but also of amidobenzene, or anilin, which had become a valued ingredient of compound rubber, and it created a sudden demand for benzene and toluene for the manufacture of explosives, and of anilin for the manufacture of dyes as well as of rubber. Consequently, coke by-products plants were erected to secure benzene and toluene, and the latter was also obtained in the course of the production of illuminating gas. Then came the armistice, the sudden cessation of the manufacture of explosives, and the need for new markets for the great quantities of coal-tar distillates which were thrown back on the hands of the producers. These markets have been found in the rubber trade, especially for tires, footwear, and hose; in sealing mixtures for tin cans; in the shoe trade, for cement; in certain processes in the making of straw hats; as a solvent for fabrikoid, and as a substitute for gasoline in motor car fuel.¹ Benzene, which is a much more powerful solvent than petroleum benzine and naphtha for fats, gums and resins, is now below the latter in price, and the manufacturer has therefore a double temptation to use it. It is probable that we shall presently find the petroleum distillates supplanted by the coal-tar in the making of varnish, quick drying paints and shellacs, and in dry cleaning, if not in the making of spread rubber goods and dipped rubber goods, as is done in Europe.

Before the war, a few cases of chronic benzene poisoning had been reported by Selling² of Johns Hopkins from a can factory where rubber dissolved in benzene was used as a sealing fluid. No cases of severe acute industrial poisoning were then on record, but

during the year 1915-1916 I reported fourteen instances of sudden acute poisoning with seven deaths,³ and since that time the danger of such an accident has become familiar to engineers and chemists and safety experts. The danger of chronic poisoning is less well known, and it seems timely to call the attention of the medical profession to this increasing menace in American industry, to describe the conditions under which it may be looked for, and the warning symptoms. It is important to take into account a possible confusion in names. Benzine is a petroleum distillate, far less toxic than benzene. Another source of confusion is the use in industry of the term "solvent naphtha" to cover, not petroleum naphtha, but a mixture of crude benzene, toluene and xylene.

ACUTE INDUSTRIAL POISONING

The German literature yields, as one would expect, the largest number of instances of benzene poisoning, both acute and chronic. The German factory inspectors' reports for 1912 contained three cases, two of them fatal. One man was painting with benzene tar paint the interior of a barrel; another, in a dry cleaning establishment, had climbed into the washing machine, which had a little residue of benzene at the bottom. The third, who was in charge of a distilling plant, had neglected to turn on the cold water for condensation, and the fumes that escaped killed him. A case similar to this was reported by the British factory inspectors⁴ in 1918. An increase of pressure caused a quicker distillation of vapor than the condenser could deal with. The man, being overcome, revived with oxygen; but, when he returned to work the second night after, he was again overcome and died.

The earliest instances of acute industrial poisoning in American industry seem to have occurred in connection with war industries in 1915-1916. The men were pipe fitters or workmen engaged in distilling benzene or cleaning tanks or, in two instances, sulphonating benzene as a step in the production of phenol (carbolic acid). In more recent years a decided effort has been made to avoid such accidents; but, if a man is susceptible to benzene it takes only a small quantity to poison or even to kill him.

EXTRAORDINARY SUSCEPTIBILITY TO BENZENE

In a case described by Lewin,⁵ the benzene kettle had been empty for twenty-two hours, was washed out twice with steam and three times with cold water, and then it was allowed to stand all night filled with cold water. As the workman went in, a strong current of air was blown in through a pipe. In spite of all

1. The difference between the exhaust gases from gasoline and those from coal-tar distillate motor car fuel is described by Henderson, Yandell: *J. Indust. Hyg.* 3: 145, 1921.

2. Selling, L.: *Bull. Johns Hopkins Hosp.* 21: 33, 1910.

3. Hamilton, Alice: *Industrial Poisons Encountered in the Manufacture of Explosives*, J. A. M. A., 68: 1445 (May 19) 1917.

4. Annual Report, Chief Inspector of Factories and Workshops for year 1918, p. 78.

5. Lewin, L.: *München. med. Wchnschr.*, 54: 2377, 1907.

these precautions, he was overcome and fell to the bottom of the tank. Several of his fellow workmen tried to get him out, but all grew dizzy and confused, and had to give it up. Finally, an engineer in a diver's helmet succeeded in rescuing him, and he was revived; but one of the workmen who had helped in the rescue died within ten minutes of inhaling the fumes.

Even greater precautions had been taken in an English tank car which had been emptied of benzene, washed with water, then steamed out, then left for twenty hours full of water, washed out twice, boiled for twelve hours, and finally left for ten days with the 16-inch (40 cm.) manhole open. Nevertheless, the man who was sent in collapsed; and, although he was pulled out in time, one of his rescuers died.

In one of the great steel mills of Pennsylvania, two men were sent to change coils in a benzene tank which had been thoroughly blown out with steam. One of them was not affected at all; the other was overcome by the fumes, and died.

In a benzene refining plant in New Jersey, a man went to the top of a still to see what was wrong. There proved to be a bad leak, and he fainted almost instantly from the fumes; and by the time two others could come to his rescue, which was said to be not more than two or three minutes, he was moribund. Both men who went to help him fainted, but were revived.

The late T. F. Harrington of the State Labor Board of Massachusetts reported two serious poisonings, with one death, in steam fitters repairing pipes in a benzene still, 8 by 5 feet (2.4 by 1.5 meters) with a small manhole 15 by 11 inches (38 by 28 cm.) in diameter. There is no note as to the cleansing of this still, but a stream of compressed air under 60 pounds pressure was fed in by a 2-inch (5 cm.) pipe. At the end of forty-five minutes one of the men, aged 35, grew wildly excited, irrational, and finally lost consciousness. The younger man helped to push him through the manhole, which took twenty minutes, at the end of which time the younger man was found unconscious and dying.

PREVENTION OF ACUTE BENZENE POISONING

Such histories as the foregoing show how difficult it is adequately to protect men engaged in work in and about an apparatus that has been used for the production or storage of benzene. Even a Draeger helmet may not be enough, for a workman in a Pennsylvania plant who entered a tank wearing such a helmet was overcome by the fumes and died. The only possible explanation was that the nose-piece of the helmet could not have quite prevented nose breathing, but it shows that such a device is not positive protection. The best method seems to be that described to me by the men in charge of the safety work of the United States Steel Company's plant in Gary, Ind. After washing out the empty tank and steaming it out, they lower into it a cage of white mice; if the mice are overcome by gas, the process of flooding and steaming is repeated until the little animals can be lowered into the tank without showing any effect. If this procedure can be used in mine work for the detection of carbon monoxid, there seems no reason why it should not become general for the detection of benzene.

PATHOLOGY OF ACUTE BENZENE POISONING

According to Beinbauer,⁶ in acute benzene poisoning the blood in the heart and vessels is fluid, in the veins

of the abdomen, engorged. There are hemorrhages into the gastric mucosa, bloody foam in the air passages, no benzene odor, and no benzene demonstrable chemically. Sury Bienz⁷ found conspicuous bright red spots over the body, the blood fluid and dark, petechial hemorrhages into the gastro-intestinal mucosa and pleurae, general venous congestion and bloody mucus in the air passages. Lehmann⁸ of Würzburg, experimenting with cats, found a decided variation of susceptibility in individuals, but all of them showed signs of irritation of the mucous membrane, muscular twitchings, and a fall of body temperature. In large doses, there were convulsions, narcosis, very deep respirations first quick then slow, quickened pulse, and death from respiratory paralysis. A narcotic effect begins in cats after two hours' exposure to 20 mg. ($\frac{1}{3}$ grain) per liter (61 cubic inches) of air, and narcosis is complete in six hours. With 60 mg. (1 grain) the periods are fifteen minutes and one hour, respectively. In man, 15 mg. ($\frac{1}{4}$ grain) per liter of air produces listlessness and confusion after half an hour, and exposure to from 20 to 30 mg. ($\frac{1}{3}$ to $\frac{1}{2}$ grain, or from 2 to 3 parts per 100,000 parts of air) for a few hours may cause loss of consciousness.

CHRONIC BENZENE POISONING

The most famous cases of chronic benzene poisoning in the literature are Santesson's.⁹ These were nine young women from 15 to 20 years of age with purpura hemorrhagica and hemorrhages from the mouth, the stomach, the nose or the uterus. They were employed in a velocipede tire factory in Upsala using benzene rubber cement. Four of them died after exposures of from three weeks to four months. The most striking finding in these cases was the fall in the number of red corpuscles and the almost complete leukopenia. Thirteen years later, Selling² described similar intoxications in girls, aged from 14 to 16, employed in a Maryland can factory in which the sealing mixture consisted of rubber and resin dissolved in commercial benzene. Three patients were brought to the Johns Hopkins Hospital with hemorrhages in the skin and from the gums and the nose. Here also there was evidence of profound blood destruction, the count in one instance falling to 640,000 red corpuscles, 480 white corpuscles, and 8 per cent. hemoglobin. In 1916, McClure¹⁰ reported a case, from the same factory, of bleeding from the nose and mouth, black and blue spots over the body, secondary anemia, and breathlessness. This patient was saved by repeated transfusions of blood, and so was a boy of 17 who entered the hospital in a similar condition a year or so later. That same year, a woman of 57, also employed in this factory, died in the hospital after hemorrhages from the intestine, kidneys and nose, and into the skin.

Harrington¹¹ of Massachusetts reported five cases with three deaths, from an automobile tire factory. These men were using benzene in building automobile tires, applying it by a cloth to the rubber. Here, also, there were purpuric spots on the skin, hemorrhages from various mucous surfaces, extreme weakness and dyspnea. The red corpuscles in one instance fell to 944,000. In another, the white cells numbered 850, of which only 14 per cent. were polymorphonuclears.

7. Sury Bienz: *Vrtljrschr. f. gerichtl. Med.* **49**: 138, 1888.

8. Lehmann, K. B.: *Kurzes Lehrbuch der Arbeits- und Gewerbehygiene*, Leipzig, 1919, p. 249.

9. Santesson, C. G.: *Arch. f. Hyg.* **31**: 336, 1897.

10. McClure, R. D.: *Pernicious Anemia Treated by Splenectomy and Systematic, Often Repeated Transfusion of Blood*, *J. A. M. A.* **67**: 793 (Sept. 9) 1916.

11. Harrington, T. F.: *Boston M. & S. J.* **177**: 203 (Aug. 16) 1917.

6. Beinbauer, F.: *München. med. Wehnschr.*, **43**: 915, 1896.

Two hitherto unpublished cases of fatal purpura hemorrhagica caused by benzene fumes were brought before the New York State Workman's Compensation Commission in 1920. The men had been employed on a machine for coating fabrikoid which is thus described: The fabric is fed in from the front to an endless traveling apron, which carries it over heated pipes. The coating mixture runs down from a can suspended above a 4 inch (10 cm.) hole in front, and the whole is encased in a wooden box. The temperature inside the machine is sufficient to volatilize all the solvent. The coating mixture consisted at that time of nitrocellulose, pigment, castor oil, grain alcohol, benzene and ethyl acetate. Fumes escaped from the hole in front, but still more the back, where the hot coated fabric left the machine. From evidence given at the hearing, it seems that nosebleed among the men in this department was of fairly frequent occurrence, and that the labor turnover was great. They worked eight hour shifts, sometimes sixteen hours, but the latter "not very often."

Both of the men who died were young and had always been strong and vigorous up to the time of their last illness. The first one worked for about nine months before he began to have bleeding from the gums, and he noticed small, red blotches on the skin between the ankles and the knees. Three weeks later, March 21, he had a severe nosebleed. He was taken to the hospital, March 24, and died, April 7, after repeated nosebleeds, bleeding from the mouth, temperature over 101, and the appearance of purpuric spots all over the legs up to the thighs. The second man worked for less than six months, sickened February 17, and died March 9. He had been feeling ill, complaining of the poor ventilation in the shop and of loss of appetite, and was very pale. Then, on the night shift of February 17, he had what one fellow workman called a chill and another a convulsion, his nose began to bleed, and blood oozed from the gums. Evidence given by his physician shows that up to his death he had continual bleeding from the nose and mouth, bruise-like blotches appeared on the legs and body, and the temperature ranged from 102 to over 104. In neither case was any blood examination made, and the medical details are very scanty.

The company had made tests of the air around the coating machines, for it was anxious to prevent the escape of the solvent, which it was trying to recover and use again. Something less than 5 per cent. was reported to be the highest concentration of benzene found in the air, and it is evident that the officials considered this amount too little to cause any anxiety.

Newton¹² of Akron, Ohio, has published the only article in American literature on the early stages of slow benzene poisoning. Three chemists were exposed to benzene vapors for about two weeks. Only one complained of ill health; headache, lassitude, anorexia and loss of weight, and then a sudden attack of pain in the abdomen, nausea and vomiting. Newton found the pulse and temperature normal, but there was a marked leukopenia, 1,200, with 39 per cent. large mononuclears. The erythrocyte count was 5,760,000, but the hemoglobin only 80 per cent. He then examined the blood of the other two and found white counts of 1,250 and 1,700, and a low red count, from 3.6 to 4 million. Appropriate treatment resulted in a decided increase in the white cell count, showing the value of periodic

examinations of the blood in workers exposed to benzene.

PATHOLOGY OF CHRONIC BENZENE POISONING

Selling's¹³ researches and those of Duke¹⁴ show that the pathology of slow benzene poisoning consists in: (1) a direct destruction of leukocytes with reduced formation of new elements; (2) a destructive action on blood platelets and on the megacaryocytes of the marrow from which platelets are formed, and (3) destruction of adult red corpuscles and the prevention of the formation of new ones. These changes occur in the order given, the effect on the reds being especially characteristic of very slow poisoning, the last to appear and the last to disappear with recovery. Of the white cells, the polymorphonuclears suffer most. The blood picture, therefore, is largely negative; adult cells disappear and no young cells are formed. The destruction of platelets accounts for the abnormal fluidity of the blood.

Hektoen,¹⁵ noting that Selling's experiments showed a selective action of benzene on the tissues and cells that are concerned in the production of antibodies and in defense against infection, studied the influence of benzene on the course of infection in animals, and found in rabbits an actual reduction of antibody formation, together with grave lesions in the marrow, a reduction in the number of leukocytes and a reduction in their phagocytic power. Rusk,¹⁶ two years earlier, had shown that benzene-intoxicated animals produced hemolysins and precipitins less efficiently than normal animals.

The work of Weiskotten¹⁷ and his colleagues, although not carried on with this in view, has a decided bearing on industrial benzene poisoning. They have found that the results of exposure of rabbits to benzene vapor are of the same general nature as those produced by subcutaneous injection of an olive oil-benzene mixture. Maximal sublethal dosage causes leukopenia, hemorrhages and slight anemia. After discontinuance of exposure, the total leukocyte curve rises to a permanent general level, lower than that existing before exposure. Their experiments also confirm those of Rusk and of Hektoen; for, during daily subcutaneous injections of an olive oil-benzene mixture, in four rabbits there developed evidences of active acute infection, and in at least two of these it seemed that infections present before the injections began had been "lighted up" by the benzene. In these animals, polymorphonuclear leukopenia did not occur; in fact, there was the usual leukocytosis of acute infection, and the animals died at its height. They conclude that the leukocyte count cannot be safely depended on in connection with the administration of benzene. It seems fair, therefore, to say that it cannot be absolutely depended on in the diagnosis of industrial benzene poisoning, although Newton's experience shows that it is of great value in detecting early cases. A year or so ago, a man employed in a Boston rubber works using benzene cement was taken with nosebleed, breathlessness and weakness, and bruise-like spots appeared over his body. The physician in charge, however, refused to regard the case as one of benzene poisoning because there was a high white cell count. One cannot help wondering whether careful examination might not have

13. Selling, L.: *Beitr. z. path. Anat. u.z. allg. Path.* 51: 576, 1911.

14. Duke, W. W.: *Causes of Variation in the Platelet Count*, *Arch. Int. Med.* 11: 100 (Jan.) 1913.

15. Hektoen, Ludvig: *J. Infect. Dis.* 10: 69 (July) 1916.

16. Rusk, G. Y.: *Univ. California Pub. Pathology* 2: 139, 1914.

17. Weiskotten, H. G.: Gilles, C. B. F.; Boggs, E. O., and Templeton, E. R.; *J. M. Res.* 41: 425 (May) 1920.

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revealed some focus of infection which would have accounted for this.

PREVENTION OF CHRONIC BENZENE POISONING

The question is, Can it be prevented? Is it possible in view of the marked susceptibility of certain individuals to benzene to protect workers completely against the effect of even small quantities of this poison? T. M. Legge tells of a man dying of typical benzene poisoning after employment for some months in a British rubber factory, yet analyses of the air at different points in the room showed only one part of benzene to 10,000 of air. Recently, I was consulted by a large industrial establishment as to the "possible danger" of exposing men and women to air containing one part of benzene in 200 parts of air, and at times one part in 100. It should be noted that Lehmann found that loss of consciousness might occur when there were from two to three parts in 100,000 of air.

Benzene is used in industry as a solvent, which means that the process is not complete till evaporation has occurred, till the solvent has passed off into the air. But the workman has to breathe this air. Ideally, a strong suction exhaust should be installed at the point of origin of the toxic fumes; but how is this to be done in the varnishing of automobiles, removing shellac from the pews of a church, spreading fabrikoid on textiles, cementing the seams of boots, or building automobile tires? The practical difficulties are insurmountable. The surface covered with benzene is so big that no artificial exhaust can be so placed as to catch all the fumes. Moreover, benzene passes through the skin as well as the respiratory tract.

To the manufacturer, the introduction of this cheap and powerful solvent may seem an advantage; to the physician, interested in the producer more than in the product, it can only seem a disastrous innovation in industry.

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IS THE CONTROL OF DIPHTHERIA LEADING TO ERADICATION?

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The present procedures for the control of diphtheria do not seem to be leading toward the complete eradication of the disease. Since the case rate is approximately the same as that of thirty years ago, and the mortality rate has shown no appreciable reduction during the last few years, the factors utilized for control must be inadequate for eradication.

Eradication is here used as meaning such perfect control of the factors of a disease that epidemic spread becomes impossible. In this sense the term is applicable to the status of yellow fever in the United States, where, during the last century, it frequently reached as far north as Baltimore and Philadelphia in epidemic form; whereas at present its control is so perfect that this disease is no longer a menace to even our southern ports. Similarly, the control measures for typhoid are successful because both the case incidence and the mortality have been increasingly diminishing during the last twenty years. At the present rate of reduction typhoid as a cause of sickness and mortality should soon become practically extinct. Here the main factor would seem to be the successful prevention of transmission and a cumulative elimination of sources of infection.

At the present moment there are no indications that the control of diphtheria will parallel that either of yellow fever or of typhoid. If this be true, the present control measures for diphtheria are not successful.

True, the mortality from diphtheria and croup per hundred thousand population in the United States has been reduced 75 per cent. in the last thirty years (1890, 64 deaths per hundred thousand population; 1920, 15.3 deaths per hundred thousand¹). Notwithstanding this reduction in mortality, the number of cases per hundred thousand would seem to be approximately the same as thirty years ago. This is asserted on the basis of the following consideration: During the early nineties, various authorities, from personal experience, placed the case mortality rate at from 25 to 40 per cent. On the basis, then, of an average 32 per cent. case mortality and a death rate of 64 per hundred thousand population (40,677 deaths, 62,947,714 population²) for 1890, there was an annual case rate for the total population of 200 per hundred thousand. It will be noted here that the case rate is determined from two fairly definite rates: case mortality and population mortality rate. So, then, we may say that in 1890 there was for the total population of the United States a diphtheria mortality rate of 64 per hundred thousand, a case mortality rate of about 32 per cent., and a case rate of 200 per hundred thousand.

In contrast to the rates for 1890, it is found that in the registration area (87 per cent. of the total population) there was for 1920 a mortality rate of 15.3 per hundred thousand, and, since the case mortality is about 8 per cent.,³ the annual case rate for this average year is 200 per hundred thousand. As additional evidence that the rates for 1920 are approximately correct, the following is presented from a more elaborate report of 1919.⁴ From sixty-eight cities with a combined population of 27,148,810 there were reported 65,823 diphtheria cases: a case rate of 243 per hundred thousand population. There were 5,404 deaths, making a case mortality of 8 per cent. and a population mortality rate of 20 per hundred thousand. This population is purely urban, and, to apply these rates to the entire United States, correction must be made for the rural population, where the disease is only 0.6 per cent. as prevalent as in the cities.⁵ When this is done it is found that the case rate is somewhat over 200 per hundred thousand population, the case mortality 8 per cent., and the mortality rate slightly over 15 per hundred thousand.

Comparing the year 1890 with 1920, there is 75 per cent. reduction in case mortality (from 32 to 8 per cent.), which results in a 75 per cent. reduction in the mortality rate per hundred thousand population (from 64 to 15.3). But the disappointing feature is that the case rates per hundred thousand population would seem to be about the same (200) for the two average years in question.

RESULTS OF ANTITOXIN TREATMENT

During the last twenty-five years this reduction in mortality has been due almost wholly to the use of antidiphtheritic serum, although the more accurate—laboratory—diagnosis has been of great help. During the last twenty-five years, serum treatment has resulted in the saving of a million lives in the United States

1. Mortality Statistics, U. S. Bureau of the Census.
2. Vital Statistics, Part 1, Twelfth Census, U. S., 1890.
3. Estimated from Pub. Health Rep., 1920.
4. Pub. Health Rep., Dec. 17, 1920, p. 3029.
5. Mortality Statistics, U. S. Bureau of the Census, 1910, p. 41.

alone. Notwithstanding this enormous saving, during the same period there has been a loss of about 300,000 lives.

Is the annual sacrifice of more than 15,000 lives to continue indefinitely? Could these be saved by a broader application of accurate diagnosis and serum treatment, or by the Schick test and injection of toxin-antitoxin mixture? It is doubtful whether, by such methods, all, or even a large percentage, could be saved. The limitations of these procedures lie in that they are directed, in the main, against mortality, and not against distribution of infection; the result is that the diphtheria case rates per hundred thousand population would seem to be about the same (200) for 1890 and for 1920. On this basis there are more than 200,000 cases annually in the entire United States with somewhat more than 15,000 deaths. This is not control leading to eradication. True, the reduction of 75 per cent. in case mortality is a splendid achievement: the saving of 45,000 lives annually. Despite this fact, there has been no apparent reduction in cases, and the mortality represented by 15,000 deaths annually means there remains much to be accomplished.

Are such deaths to be prevented by reduction in case rate, or by a further reduction in case mortality? The case rate will probably remain unaffected by even a wider application of biologic procedures which affect only case mortality; on the other hand, reduction in case rate would automatically reduce mortality.

THE FOUR APPLIED FACTORS

Perhaps a consideration of the factors underlying present day procedures for the control of diphtheria will illustrate the difference between a reduction in case incidence, which leads to eradication and a reduction only in case mortality, which leaves the case incidence unaffected. As applied today, these factors are: (1) clinical and laboratory diagnosis of the disease and the isolation of the patient; (2) laboratory identification of the healthy carrier and his isolation; (3) the Schick test and immunization, and (4) the use of antitoxin as a curative measure.

Only the first two of these factors are useful in the prevention of infection distribution; the other two are of value in the reduction of mortality.

The correct diagnosis followed by quarantine of the patient and of the carrier has, for about a quarter of a century, been the accepted procedure for the prevention of distribution. In epidemics these factors are utilized with an apparently favorable result. This has been regarded as successful control of the disease. Yet the few deaths in each endemic and epidemic focus throughout the United States mount to an annual toll of more than 15,000 lives.

The utilization of these two factors is resorted to only after the disease has betrayed itself in endemic or epidemic form; they are applied to only recognized cases and identified carriers during disease prevalence; moreover, during interepidemic periods, the mild missed cases and healthy carriers are disregarded. Is not the gradual accumulation, during interepidemic times, of unrecognized carriers associated with oncoming susceptibles responsible for our periodic epidemics? Can such interepidemic carriers be prevented by the activities of health departments, or is it a question of educating the people relative to the major avenues of disease distribution?

In New York City, where the health department is preeminent, there has been during recent years about 1,200 deaths annually from diphtheria. Notwithstand-

ing this highly efficient organization, the case rate today is, on the basis of a 75 per cent. reduction in mortality due to the use of antitoxin, about the same as that of thirty years ago. The happy result incident to the use of the serum has saved during the last thirty years close to 100,000 lives in New York City. Despite this success there has been a loss of 30,000 lives.

On the basis of greater efficiency in the laboratory diagnosis and the quarantine of carriers, can New York or any other city reduce still further the case rate as well as the mortality rate from this disease? If not, are we to go on indefinitely with 200,000 cases and 15,000 deaths annually in the United States?

The correct diagnosis of a disease is fundamental for the prevention of that disease, but apparently the added accuracy afforded by laboratory diagnosis, together with quarantine, has not appreciably reduced the diphtheria case rate. But here it is to be pointed out that one could hardly venture a guess as to what height the case rate might ascend were not the factor of laboratory diagnosis universally resorted to.

In addition to the serum treatment for the prevention of mortality after symptoms have appeared, there has recently come into use the Schick test for immunity to this disease. Both these factors are for the reduction of mortality.

With special reference to the Schick test for immunity, there is perhaps no argument as to its value for sickness and mortality reduction. Is it useful, on the other hand, in the control of distribution? The injection of the antitoxin for the cure of the disease does not relieve the patient from the carrier state.⁶ Presumably the immunization by the injection of toxin-antitoxin mixture has no effect on the carrier state. If this passive immunization neither eliminates nor prevents the carrier state, and at the same time removes the danger signal (the manifestation of symptoms on the part of those who have become infected as a result of transmission) there is developed a false sense of security: security against immediate mortality, but not against an increasing healthy carrier rate!

Should the popularity of the Schick test and of immunization sweep the country with the result that a considerable percentage of children of school age should be immunized, presumably the case rate and the mortality rate would be reduced in proportion to the percentage of children immunized. If this biologic procedure was limited to the 20,000,000 children of school age and the results were wholly satisfactory, the mortality would be reduced by one half. Yet, since one-half the total diphtheria occurs among children under school age, there would remain 7,000 deaths unaffected. If the procedure through the Schick test alone is to become as perfect in the prevention of diphtheria mortality as has the procedure for the prevention of yellow fever and as is that for typhoid, it will be necessary that the 31,000,000 children now living be immunized; in addition, that the 2,000,000 born each successive year be immunized. Presumably the accomplishment of this is not possible; even if it were, the question might be asked, Is it advisable to undertake this scheme with the view of applying it throughout the future generations? The trouble is that immunization of each generation is not permanently effective. It is neither elimination nor a reduction of carriers; rather, it would produce an increase because, as has

6. Rosenau, M. J.: *Preventive Medicine and Hygiene*, Ed. 2, New York, D. Appleton & Co., 1916, p. 167.

been said, immunization lowers the danger signal and obscures the necessity of searching for carriers.

If we assume the more likely possibility that only such communities as have well organized health departments will resort to the Schick test and immunization, with the result that the case rate and the mortality rate are there reduced to a minimum, will not those communities with their high percentage of reservoir hosts of diphtheria bacilli become foci of distribution for surrounding communities which have not taken, and perhaps could not take, advantage of these biologic preventive methods? As long as there is considerable prevalence of diphtheria, the Schick test for immunity is invaluable; but if diphtheria control is to lead to eradication, not only the case and mortality rates, but, in addition, the infection rate, must be reduced.

THE FIFTH FACTOR

The four factors discussed would seem to be inadequate. Even through more perfect operation it is not indicated that distribution of infection would be lessened. As emergency measures, however, they save approximately 45,000 lives annually. Despite this, there remains a loss of 15,000 lives annually, and this loss occurs though we have highly organized health departments.

If the four factors cannot be made adequate, there must, then, be added a fifth factor. This is the factor of transmission prevention. In the end it is the continuous blocking of transmission from the mild unrecognized case and from the unidentified carrier which will reduce the case rate and the mortality rate. The accurate diagnosis and quarantine hold distribution in check; yet these methods only limit the ravages of an epidemic, and do not tend to the prevention of epidemics by a reduction in endemic incidence. A reduction in the endemic carrier index—the inter-epidemic case and carrier rate—is the end to be attained.

How is this reduction in the endemic carrier index to be brought about? Are we to rely on biologic methods or on sanitary procedures? At present, biologic methods would not seem to offer much hope. On the basis of these the mortality rate would seem to have reached its irreducible minimum, and the most promising avenue of control would appear to be sanitary procedures which aim at a reduction in the transmission rate. The epidemiologists of laboratory and field experience must determine the major avenues of distribution and devise practical methods for blocking these avenues. Only when these methods are inculcated into the habits and customs of the people will there appear a reduction in the endemic index, and successful control of diphtheria leading to eradication. There will then be a reduction in the number of sources, in transmissions, in new carriers, in new cases, and in deaths. By this endless chain of cumulative reduction, the disease can be brought under permanent control, as has been done in typhoid.

CONCLUSION

The eradication of diphtheria will not come through the serum treatment of patients, by the immunization of the well, or through the accurate clinical and laboratory diagnosis of the case and the carrier followed by quarantine; rather it will be attained through the mass sanitary protection of the populace, subconsciously practiced by the people at all times.

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THE THERAPEUTIC INDEX OF SILVER ARSPHENAMIN

COMPARISON WITH THAT OF ARSPHENAMIN
AND NEO-ARSPHENAMIN*

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After perusal of the literature on the subject of silver arsphenamin, one is impressed with the fact that the investigators in their studies of the spirocheticidal action of silver arsphenamin dwell extensively on the rapid involution of the cutaneous and mucous membrane lesions. Their conclusion that the spirochete is destroyed sooner and more thoroughly is based on the clinical course of the disease and the time elapsing before the spirochete disappears from the initial lesion, rather than on the serologic evidence during the course and at the termination of the intravenous medication. The well-known fact remains, for the present at least, that our guide to the progress of the patient treated for syphilis is the Wassermann reaction. We should not have considered our observation in regard to the therapeutic index of silver arsphenamin of sufficient significance to be added to the already voluminous literature on the subject were it not for the fact that the results obtained in our clinic following the treatment of syphilitic patients with the new synthetic drug of the arsphenamin group are not in agreement with the observations reported. After comparing the serologic results of the patients who have been treated with silver arsphenamin with those obtained from patients who have been treated with arsphenamin and neo-arsphenamin, it is our belief that the effect of the new arsenical preparation on the spirochetes is almost nil.

The possibilities of silver arsphenamin in the treatment of syphilis were first suggested by Ehrlich and later elaborated by Kolle. According to the latter, the silver arsenic compound contains 22.4 per cent. of arsenic and 14.1 per cent. of silver. The substance is brownish and easily soluble, forming a dark brown solution, in cold water. Kolle and Ritz¹ attributed the superiority of the new drug over arsphenamin and neo-arsphenamin to the fact that when the arsenical molecule is combined with the silver molecule, the two metals act in combination. The silver inhibits the multiplication of the spirochetes, and the arsenical molecule anchored to the spirochetal plasma destroys the spirochete.

A considerable number of investigators unanimously agree with Kolle that silver arsphenamin is the drug of choice in the treatment of syphilis.

Galewsky,² in his experience with silver arsphenamin, states that the patients in the primary stage with positive dark field for spirochetes but with a negative Wassermann reaction remain serologically negative a year after treatment as well as throughout the treatment. In our limited experience with this condition in patients, we have found that the Wassermann reaction remains negative regardless of the type of arsphenamin used. In the same paper Galewsky states that he has given more than 700 injections. He has combined the

* From the Department of Dermatology, Jefferson Medical College.
1. Kolle, W., and Ritz, H.: *Deutsch. med. Wchnschr.*, 1919, No. 18.
2. Galewsky, E. *Deutsch. med. Wchnschr.* 44: 1326, 1918.

intravenous treatment with mercury, and concludes that the results compare favorably with the results obtained when the patients are treated with the older preparation. The fact that Galewsky administered mercury at the same time that the patient was being given the intravenous medication should exclude his work when the therapeutic indexes of the new and the old drugs are compared. In 1920, after two years of experience with silver arsphenamin, Galewsky³ is convinced that the Wassermann reaction becomes negative

lesions. He further states that fresh cases always become negative after twelve injections, and old cases almost always. We presume that under the fresh cases Hahn includes patients who have initial and secondary lesions and who are seropositive.

Hugo Müller,⁶ Houck,⁷ Leutz,⁸ Favry,⁹ and Kreibich¹⁰ are in accord with the opinion of the observers mentioned above that silver arsphenamin is the drug to be preferred to arsphenamin or neo-arsphenamin in the treatment of syphilis.

TABLE 1.—RESULTS WITH SILVER ARSPHENAMIN, 0.2 GM., TOTAL DOSAGE 1.6 GM.

Case	Sex*	Age	Type of Lesion	Duration	Location	Intensity of Wassermann Previous to Treatment	Intensity of Wassermann During Treatment	Wassermann After Completion of First Series
1. H. W.	♂	21	Condylomas	Indef.	Anus	+4	+4+4+4+4+4+4	+4
2. K. K.	♂	30	Papulosquamous	3 weeks	General	+2	+2+4+3+4+4+4	+4
3. D. R.	♂	18	Iritis	19 days	Right eye	+4	+4+4+4+4+4+4	+4
4. G. G.	♂	48	Papular	1 month	General	+4	+4+3+4+3+3+3	+3
5. H. T.	♂	27	Latent	.....	.....	+4	+4+4+4+4+4+4	+4
6. R. B.	♂	20	Annular	2 weeks	Face	+4	+4+4+4+2+2+2	+1
7. M. M.	♂	45	Tuberculous	4 months	Forearm	+4	+4+4+4+4+4+4	+4
8. C. B.	♂	18	Keratitis	3 weeks	Left eye	+3	+3+2+2 N +2+2+2	+3
9. E. B.	♂	27	Tuberculous	Indef.	Forearm	N	N +4+3+2+1+2	+2
10. J. H.	♂	29	Papular	2 weeks	General	+4	+4+4+4+1+1+2+2	+2
11. P. B.	♂	39	Tuberculous	6 months	Forehead	+4	+4+4+4+4+4+4	+4
12. G. W.	♂	31	Leukoplakia	2 years	Tongue	+4	+4+4+4+4+4+4	+4
13. B. W.	♂	26	Annular	2 weeks	Face	+4	+4+4+4+4+4+4	+4
14. W. S.	♂	24	Annular	5 weeks	General	+4	+4+4+4+4+4+4	+4
15. C. B.	♂	50	Tuberculous	5 years	Leg	+4	+4+4+4+4+4+4	+4
16. A. B.	♂	33	Tuberculous	2 years	Left leg	+4	+4+4+4+4+4+4	+4
17. J. K.	♂	31	Tuberculous	1½ years	Forehead	+4	+4+4+4+4+4+4	+4
18. B. J.	♂	19	Maculopapular	3 weeks	General	+4	+4+4+4+1 N N	Negative
19. A. H.	♂	29	Papulosquamous	1 month	Left hand	+4	+4+4+4+4+3+3+3	+3
20. F. K.	♂	48	Tuberculous	9 months	Scapula	+3	+3+3+4+4+3+3+3	+3
21. J. S.	♂	34	Papular	3 days	General	+3	+3+3+4+4+4+3+3	+3
22. M. T.	♂	28	Relapsing	5 weeks	Face	+3	+3+4+4+4+4+4+4	+4
23. W. H.	♂	27	Gumma	6 months	Right leg	+4	+4+4+4+4+4+4+4	+4
24. A. C.	♂	19	Macular	2 weeks	General	+4	+4+4+4+4+4+4+4	+4
25. A. B.	♂	35	Papulopustular	4 weeks	General	+4	+4+4+4+4+4+4+4	+4

* In this column, ♂ indicates male, and ♀ female.

TABLE 2.—RESULTS WITH ARSPHENAMIN, 0.4 GM., TOTAL DOSAGE 3.2 GM.

Case	Sex*	Age	Type of Lesion	Duration	Location	Intensity of Wassermann Previous to Treatment	Intensity of Wassermann During Treatment	Wassermann After Completion of First Series
26. J. C.	♂	37	Papulosquamous	13 years	Left palm	+3	+3+4+3+1+1+1 N	Negative
27. E. F.	♂	48	Mucous patches	1 month	Throat	+4	+4+4+4+4+4+4+4	+4
28. A. G.	♂	32	Papular	1 month	General	+4	+4+4+3+1+1+1+1	+1
29. E. H.	♂	49	Rupia	Indef.	Neck	+4	+4+4+4+4+4+4+4	+4
30. H. H.	♂	20	Papular	1 month	General	+4	+4+4+2+2+1 N N	Negative
31. O. N.	♂	54	Tuberculous	4 months	Sacrum	+4	+4+4+4+4+4+4+4	+4
32. D. S.	♂	27	Latent	.....	.....	+4	+4+4+4+4+3+2 N	Negative
33. M. M.	♂	24	Latent	Indef.	.....	+4	+4+4+4+2+2 N N	Negative
34. B. T.	♂	19	Macular	2 months	General	+4	+4+4+4+1+1 N N	Negative
35. F. R.	♂	17	Macular	12 days	General	+4	+4+4+4+3+1 N N	Negative
36. J. R.	♂	26	Relapsing	3 weeks	General	+4	+4+4+4+4 N N N	Negative
37. A. P.	♂	27	Chancre	2 weeks?	Penis	+3	+3+4+2 N N N N	Negative
38. J. R.	♂	51	Latent	.....	.....	+2	+2+4+1 N +2+4+2	+2
39. A. R.	♂	53	Gumma	1 year	Chest	+4	+4+4+4+4+4+4+4	+4
40. J. A.	♂	26	Tuberculous	6 months	Left arm	+4	+4+4+3+3+3 N N	Negative
41. E. C.	♂	42	Tuberculous	4 years	Arm	+4	+4+4+4+4+4+4+4	+4
42. B. F.	♂	23	Papular	10 days	General	+4	+4+4+4+4+4+4+4	+4
43. J. F.	♂	30	Maculopapular	2 months	General	+4	+4+4+4+4+4+4+4	+4
44. E. D.	♂	19	Chancre	3 weeks	Vulva	+4	+4+4+3+2+1+1 N	Negative
45. G. B.	♂	26	Annular	3 weeks	Face	+4	+4+4+4+2+1 N N	Negative
46. J. D.	♂	47	Latent	.....	.....	+2	+2+2+2+2+2+1+2+2	+2
47. T. C.	♂	30	Latent	.....	.....	+4	+4+4+3+3 N N N	Negative
48. A. C.	♂	41	Gastric	Indef.	Stomach	+4	+4+4+4+4+4+4+4	+4
49. W. C.	♂	43	Papulosquamous	6 months	Palm	N	N +4+3+2 N N N	Negative
50. L. T.	♂	40	Gumma	2 years	Leg	+4	+4+4+4+4+4+4+4	+4

* In this column, ♂ indicates male, and ♀ female.

sooner than with the old arsphenamin. In his later work he discontinued combining mercury with his treatments. He held that it was not necessary.

It is the contention of Gennerich⁴ that, when syphilis is treated with the new arsenical preparation, the results are better than when treated with the old arsenical compounds, even though mercury has been combined with arsphenamin or neo-arsphenamin.

Hahn⁵ is also of the same opinion as Galewsky and Gennerich that silver arsphenamin causes a rapid disappearance of the cutaneous and mucous membrane

Parounagian,¹¹ summarizing his study of silver arsphenamin, says:

Clinical manifestations in all stages of syphilis have responded to treatment with silver arsphenamin with gratifying rapidity and thoroughness. Our impression is that the response begins more promptly and that the lesions resolve with greater rapidity than is the case with a similar number of treatments with other arsenical preparations.

6. Müller, Hugo: *Deutsch. med. Wchnschr.* 44: 1415, 1918.

7. Houck, L.: *Med. Klin.*, 1919, No. 24.

8. Levy-Leutz, L.: *Deutsch. med. Wchnschr.* 45: 1440, 1919.

9. Favry, J.: *Deutsch. med. Wchnschr.* 44: 1217, 1918; 45: 1358, 1919.

10. Kreibich, C.: *Med. Klin.*, 1919, No. 7.

11. Parounagian, M. B.: *A Study of Silver Arsphenamin in the Treatment of Syphilis*, J. A. M. A. 77: 1706 (Nov. 6) 1921.

3. Galewsky, E.: *München med. Wchnschr.* 67: 124 (Jan. 30) 1920.

4. Gennerich, W.: *Deutsch. med. Wchnschr.* 44: 1243, 1918.

5. Hahn, J. F.: *Deutsch. med. Wchnschr.* 46: 92 (Jan. 22) 1920.

Walson¹² states that no evidence, from animal experimentation or clinical application, has been presented to contradict the impression that silver arspnenamin is the strongest spirocheticide. We believe that the work of Walson, like the work of Galewsky, should not be considered in the light of comparison, since they gave mercury at the time they were giving silver arspnenamin.

Schoenfield and Bernbaum,¹³ Goldberger,¹⁴ Kerl¹⁵ and Bruhns and Lowenberg¹⁶ are of the opinion that silver arspnenamin is equal to arspnenamin, but better than neo-arsphenamin.

Our purpose in this paper is not a deliberate study of present data that would prove favorable or unfavorable to silver arspnenamin. The observation that the curative action of silver arspnenamin is inferior to that of the older arsenical preparations has been made at our clinic in the course of treatment of syphilitic patients. The serologic results have been compared

with silver arspnenamin will be designated as Group 1; patients treated with arspnenamin as Group 2, and patients treated with neo-arsphenamin as Group 3. We have employed, throughout, silver arspnenamin, 0.2 gm.; arspnenamin, 0.4 gm., and neo-arsphenamin, 0.6 gm.

Each group consisted of twenty-five patients who were treated twice a week for four weeks. In Group 1, patients received 1.6 gm. of silver arspnenamin; 3.2 gm. of arspnenamin was given to every patient in Group 2, and patients in Group 3 received 4.8 gm. of neo-arsphenamin. The silver arspnenamin was dissolved in 30 c.c. of physiologic sodium chlorid solution and was given slowly intravenously. The technic for the administration of arspnenamin and neo-arsphenamin is so well known as not to require description. Blood for the Wassermann reaction was drawn before each treatment as well as seven days after the eighth injection.

TABLE 3.—RESULTS WITH NEO-ARSPHENAMIN, 0.6 GM., TOTAL DOSAGE 4.8 GM.

Case	Sex*	Age	Type of Lesion	Duration	Location	Intensity of Wassermann Previous to Treatment	Intensity of Wassermann During Treatment	Wassermann After Completion of First Series
51. T. W.	♂	45	Papulosquamous.....	2 years	Palm	+2	+3+1+3+1 N +1 N	Negative
52. E. W.	♂	21	Condylomas.....	4 weeks	Anus	+4	+4+3+3+3+3+3 N	Negative
53. S. T.	♂	24	Latent.....	.....	.....	+4	+4+4+4+4+4+4+4	+4
54. L. S.	♂	19	Macular S.....	3 weeks	General	+4	+4+3+3+3+2+2+3	+3
55. N. M.	♂	29	Tertiary S.....	11 years	Throat	+1	+1+4+4+4+4+4+4	+4
56. C. M.	♂	27	Annular S.....	3 months	Face	+4	+4+4+4+4+4+4+4	+4
57. H. H.	♂	35	Papular S.....	1 month	General	+4	+4+4+4+4+4+4+4	+4
58. A. G.	♂	19	Macular S.....	3 months	General	+4	+4+4+4+4+3+3+2	Negative
59. H. D.	♂	42	Papulosquamous.....	6 years	Palm	+4	+4+4+4+3+1+1 N	Negative
60. M. G.	♂	19	Macular S.....	2 weeks	General	+4	+4+3+2+3+1+1 N	Negative
61. C. A.	♂	23	Latent.....	.....	.....	+4	+4+4+4+4+4+4+4	+4
62. S. A.	♂	22	Maculopapular S.....	6 weeks	General	+4	+4+3+3+2+2+1 N	Negative
63. J. C.	♂	48	Tertiary S.....	Indef.	Spine	+4	+4+4+4+4+4+4+3	+4
64. A. C.	♂	35	Charcot's joint.....	Indef.	Right elbow	+4	+4+4+4+4+4+4+4	+4
65. B. D.	♂	36	Latent.....	.....	.....	+4	+4+4+4+4+4+3+4	+4
66. A. J.	♂	39	Latent.....	.....	.....	+4	+4+4+3+3+3+4+4	+4
67. F. L.	♂	31	Iritis.....	3 weeks	Eyes	+4	+1+3+3+3+3+2+2	+2
68. A. G.	♂	28	Tertiary S.....	Indef.	Face	+4	+1+4+4+4+4+4+4	+4
69. M. P.	♂	21	Macular S.....	5 weeks	General	+1	+4+4+4+4+4+4+4	+4
70. M. R.	♂	35	Secondary S.....	Indef.	Throat	+4	+4+4+4+4+4+4+4	+4
71. M. S.	♂	44	Papular S.....	1 month	General	+4	+4+4+3+3+3+2+2	+1
72. W. T.	♂	28	Latent.....	.....	.....	+4	+4+4+3+3+2 N N	Negative
73. J. W.	♂	23	Macular S.....	6 weeks	General	+4	+4+4+3+2+1 N N	Negative
74. C. E.	♂	45	Gumma.....	2 years	Abdomen	+4	+4+4+4+4+4+4+4	+4
75. F. B.	♀	36	Papular S.....	1 month	General	+4	+4+4+4+4+3+2 N	Negative

* In this column, ♂ indicates male, and ♀ female.

during the course as well as at the end of the first series of treatments. Our criterion in determining the comparative value of the three arsenical compounds is the Wassermann reaction. We realize that, in addition to the blood Wassermann examination, a complement fixation test on the spinal fluid is desirable, at least at the end of each series of intravenous treatments. However, with ambulatory clinical patients the procedure could not be considered.

As it is well nigh impossible to find two patients alike in all respects, including the clinical aspects of their disease, we have taken into consideration, when grouping syphilitic patients, their physical make up; their weight and the intensity of the Wassermann reaction before treatment, rather than the type of lesion; the duration of the lesion, and the age of the patient. Sixty-four patients were treated with silver arspnenamin. Of these, twenty-five received their treatments in a manner that permits comparison with patients treated with arspnenamin and neo-arsphenamin. For convenience of reference, patients treated

The serologic work in connection with the study of these cases was done (under the direction of B. L. C.) in the clinical laboratory of Jefferson Hospital, along with the routine Wassermann tests.

The antisheep-hemolytic system is used, and the technic consists in using inactivated serum in 0.2 c.c. amounts. A solution of complement of constant strength is used, against which the amboceptor is titrated each day, and two units of amboceptor are used in the test. Two antigens are used, cholesterinized and alcoholic extract of syphilitic liver; however, the specific antigen is not used with all the serums tested each time, but both antigens are used with a sufficient number of serums each time to have a control on the cholesterinized antigen. The first incubation of the mixture of serum, antigen and complement is done in a water bath at 37 C. for one hour. Then 1 c.c. of a 1:40 dilution of washed sheep cells and 2 units of amboceptor are added separately and incubated for one hour. At the end of this time, readings are taken if the negative controls show complete hemolysis and positive controls show complete fixation.

As a matter of precaution, the tubes are put in the icebox over night and a final reading is taken the following morning.

12. Walson, C. M.: Am. J. M. Sc. 101:418 (March) 1921. No. 3.
13. Schoenfield, W., and Bernbaum, G.: München. med. Wehnschr. 66:1087, 1919.
14. Goldberger, P.: Med. Klin. 15:955, 1919.
15. Kerl, W.: Wien. klin. Wehnschr. 32:446, 1919.
16. Bruhns, C., and Lowenberg: Berl. klin. Wehnschr. 56:914, 1919; 56:948, 1919.

Among the patients treated in Group 1 were thirteen with secondary lesions varying in duration from ten days to five weeks; one case of latent syphilis; nine patients with tertiary lesions; one case of hereditary syphilis, and one case in the primary stage and seropositive. When the first series of intravenous injections was completed, it was found that only one patient was serologically negative. In Group 2 there were eight patients with secondary manifestations; eight patients with tertiary lesions; two cases in the primary stage and seropositive; five latent cases; one patient referred from the gastro-enterologic clinic with the diagnosis "gastric syphilis," and one case of relapsing secondary lesions. In Group 2 there were thirteen patients who were negative serologically at the end of the first series. In Group 3 there were thirteen cases in the secondary stage, six patients with tertiary lesions, five cases of latent syphilis and one case of Charcot's joint. At the end of the first series of injections in this group there were nine patients who were negative serologically.

Thirty-nine patients, not including those in Group 1, have received from one to six injections of silver arsphenamin. Our impression is that syphilitic lesions have not disappeared more rapidly under the influence of the new drug. We have not examined daily for spirochetes to determine how much treatment a patient may require before the spirochete disappears from the initial lesions, but we have excised a series of secondary lesions from a number of patients and are making histopathologic studies, the findings of which will be the basis of a further communication.

SUMMARY

1. Three different groups of patients were treated with silver arsphenamin, arsphenamin and neo-arsphenamin, respectively.
2. The dosage employed throughout the treatment was silver arsphenamin, 0.2 gm.; arsphenamin, 0.4 gm., and neo-arsphenamin, 0.6 gm.
3. We base our determination of the comparative values of the three drugs on the Wassermann reaction.
4. The seropositive findings in Group 1 were changed to negative in only one instance. In Group 2 the positive Wassermann reaction became negative in thirteen cases. In Group 3 the Wassermann reaction was changed from positive to negative in nine cases.

CONCLUSION

The serologic comparisons prompt us to conclude that the spirocheticidal activity of silver arsphenamin is far inferior to arsphenamin and neo-arsphenamin in the treatment of syphilis.

THE ANTISCORBUTIC VALUE OF DEHYDRATED FRUITS*

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MINNEAPOLIS

The object of these experiments was to determine to what extent, if at all, the antiscorbatic vitamins are contained in dehydrated fruits.

The experiments consisted in feeding observations on four series of guinea-pigs, weighing from 150 to 200 gm. each at the start. The basis of their diet consisted of a half and half mixture, by weight, of alfalfa meal and white wheat flour, to which 1 per cent. of sodium chlorid had been added. The dried fruits used were peaches, apricots, apples, pears, prunes, cherries and loganberries, and precautions were taken to insure a uniform quality of these products.¹ Water and the moistened alfalfa-flour mixture were fed ad libitum, and varying amounts of fruit were used according to

the results obtained in the preliminary series. The animals were weighed every day or every other day, as their condition seemed to demand. When scurvy symptoms were prominent and marked loss of weight occurred, the amount of fruit was increased in the effort to prevent a fatal issue of the disease. Some difficulty was encountered in getting the animals to eat all of some of the fruits, especially in the cases of loganberries and cherries, making quantitative results with these somewhat question-

able. A recovery after the onset of scurvy was often made more improbable by the loss of appetite occurring as a scurvy symptom, although the amounts of fruit were increased.

In the first two series, which were preliminary in character, 0.5 and from 1 to 2 gm., respectively, of each fruit were used. All of these animals died with scurvy symptoms or secondary infection within from two to four weeks, although those receiving peaches, apricots and apples showed greater resistance to scurvy and infection.

In the third series, in which eight animals were observed, two received apples and the others received either peaches, apricots, pears, prunes, cherries or loganberries. The results were convincing only in the case of peaches and seemed promising in the cases of apricots and apples, although less so in the former. As will be seen by studying the charts of this series, the only animal that survived the scurvy symptoms for a period extending definitely beyond the average life of

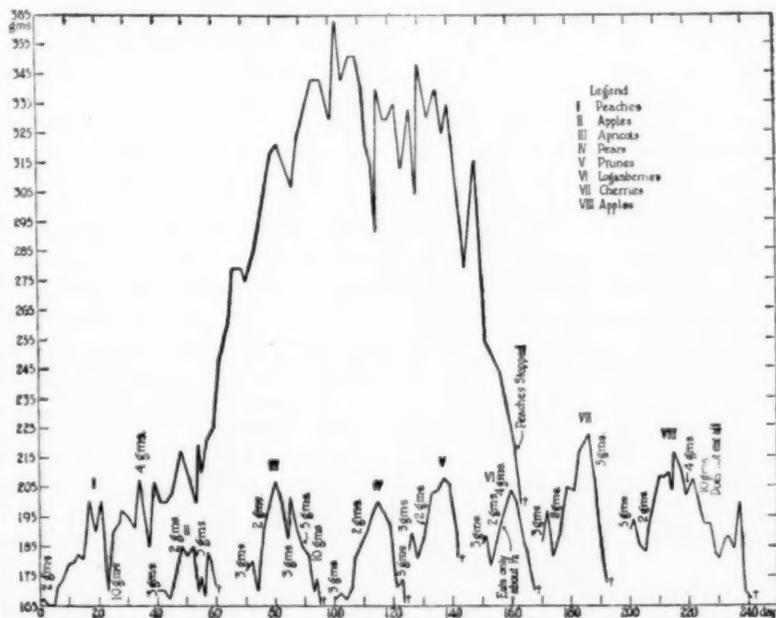


Fig. 1.—Growth curves of guinea-pigs in Series 3. Each guinea-pig is numbered with a Roman numeral.

* From the Laboratory of Physiologic Chemistry of the University of Minnesota Medical School.
1. From King's Food Products Company, Portland, Ore.

the animals on scurvy diet alone was the one receiving peaches. This animal developed definite scurvy signs (with the others) at about the third week, but made a recovery in two weeks following an increase in the fruit ration to 10 gm. Thereafter it was kept on a fruit ration of 4 gm. and continued to live in apparent health until the one hundred and forty-fifth day. No fruit was given during the three days just preceding its death, which occurred twenty days later following a marked loss of weight. It will also be observed in the weight curves of all the other animals that they lived for periods of from fifteen to twenty-five days, except one of the animals receiving apples, which lingered for forty days on a ration increased to 10 gm.

The fourth series was run to determine whether or not an animal could be kept alive for any length of time on less than 4 gm. of peaches a day, and to check up the previous series in regard to the probable value of apples and apricots. As will be observed by the weight curves, 3 gm. of peaches sufficed to prevent scurvy symptoms only for a period of thirty-five days, and on the appearance of such signs an increase to 4 and later to 5 gm. did not effect a cure. As for the apricots, they failed entirely to bear out earlier indications, as even 6 gm. did not protect the animals sufficiently to maintain life for more than one month.

The two animals fed on 3 and 4 gm. of apples also showed scurvy symptoms promptly, although the one receiving 4 gm. lived for forty-five days after the apple ration had been increased to all it would eat.

Necropsies of practically all of the animals were held, and in all cases definite evidences of scurvy were observed, such as subperiosteal hemorrhages, especially in the limbs and cheeks, evidence of intramuscular and subcutaneous hemorrhages, hemorrhagic nodules at the costochondral junctions, and enlarged and hemorrhagic suprarenals. The principal antemortem signs were marked loss of weight and appetite, subcutaneous hemorrhages, marked pseudoparalysis of the limbs, and in one case on apples (Series 4) a prolapse of the rectum, which has previously been observed by Dr. J. F. McClendon in typical scurvy cases in guinea-pigs.

From these experiments it appears evident that the only one of the dried fruits tested which contains sufficient antiscorbutic vitamin to maintain the life of a guinea-pig when fed in not too excessive quantities is peaches. Of this fruit it appears that 4 gm. a day, although insufficient to prevent scurvy, delays it for three or four months. Although further trial did not bear it out, earlier experiments indicated some value in apricots and apples. Pears, prunes, loganberries and cherries seemed to have even less value.

SPECIES OF HYMENOLEPIS AS HUMAN PARASITES

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During the summer of 1921, while I was engaged in a hookworm resurvey of certain parishes (counties) in northern Louisiana for the International Health Board of the Rockefeller Foundation, my interest was aroused in the occurrence of *Hymenolepis nana* and *Hymenolepis diminuta* as human parasites.

The genus *Hymenolepis* includes a large number of species of tapeworms of small or medium size which occur as adults in the intestines of mammals, particularly rodents, and birds. The strobilae are made up of numerous segments or proglottids which, with the exception of a few terminal segments in some species, are much wider than long. The sex ducts all open on one side of the worm. In most species the scolex is armed not only with four muscular suckers, but also

with a rostellum provided with hooklets; but in a few species, including the occasional human parasite *Hymenolepis diminuta*, the rostellum is rudimentary and the hooklets are missing. In stained and mounted specimens, tapeworms of this genus can readily be identified by the presence of three rounded or lobed testes and a single ovary, and enlarged seminal vesicle and seminal receptacle in each proglottid. Contrary to what occurs in many species of tapeworms, the eggs commonly escape

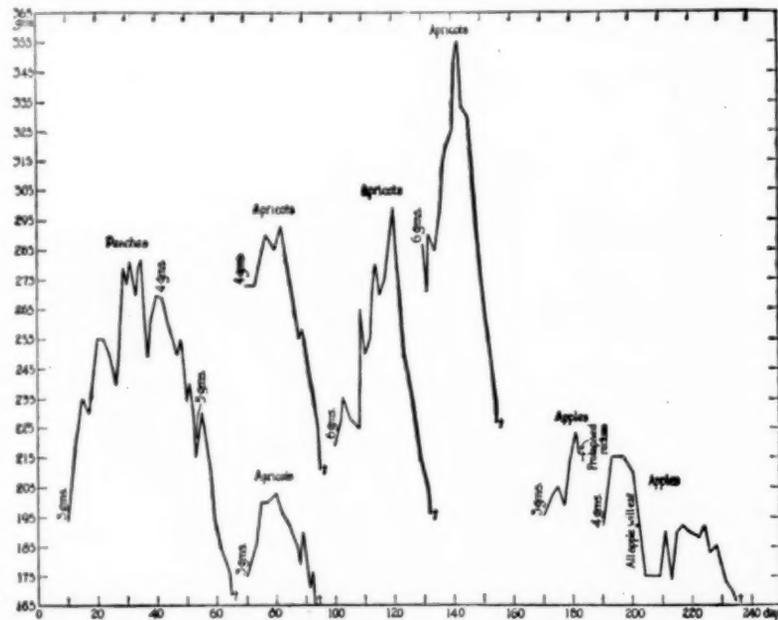


Fig. 2.—Growth curves of guinea-pigs in Series 4.

from the segments in the feces and do not lose their outer shells. Infestations, therefore, are readily discovered in routine examinations of feces for ova of worms.

LIFE HISTORY OF HYMENOLEPIS

The life histories of the few species of *Hymenolepis* about which anything definite is known present some unusually interesting conditions. There seems to be little doubt that the primitive and typical life history of species of this genus involves an invertebrate as an intermediate host for the larval stage, which is a cysticeroid. Species of *Hymenolepis* and the genera or subgenera which are closely related to it are particularly abundant in water birds, and in a number of species found in ducks the intermediate host has been determined as various fresh water crustacea (*Cypris* and *Cyclops*). In *Hymenolepis carioca* of chickens the intermediate host is the stable fly, *Stomoxys calcitrans*, and in an allied parasite of chickens, not found in this country, the earthworm has been incriminated, although not definitely so. Certain cysticeroids found in meal worms (larvae of *Tenebrio molitor*) are

ascribed by Villot (1883) to *Hymenolepis microstoma* of mice. In *Hymenolepis diminuta* of rats, mice and human beings, there are a considerable number of insects which may serve as hosts for the cysticercoids, including the meal moth caterpillars (*Asopia farinalis*), a European earwig (*Anisolabis annulipes*), several species of beetles, including the adult of the common meal worm (*Tenebrio molitor*), a number of species of fleas, and two species of myriapods. Various attempts to infect roaches, including a number of attempts that I have made to feed both the American roach (*Periplaneta americana*) and the croton bug (*Blatella germanica*), have failed. Since, as will be shown below, *Hymenolepis diminuta* is an occasional human parasite, the question of the intermediate hosts which may serve as means of transfer to human beings is an important one.

In some species of *Hymenolepis* a modification in the life history which is unique among tapeworms, as far as is known, is of common if not universal occurrence. The common rat tapeworm, *Hymenolepis murina*, believed by many parasitologists to be identical with the common human species, *Hymenolepis nana*, usually, if not always, develops without the intervention of any intermediate host. The eggs of this worm, when ingested by rats, develop into cysticercoids in the intestinal villi, from which, when mature, they escape into the lumen of the intestine and develop into adults. Recently, Joyeux¹ has discovered cysticercoids in the intestinal villi of the European hedgehog which apparently belong to the species of *Hymenolepis* commonly found in that animal, namely, *Hymenolepis erinacei*.

HYMENOLEPIS NANA

There appears to be no doubt whatever that the human species, *Hymenolepis nana*, has a life history similar to that of *Hymenolepis murina*. The very heavy infestations which frequently occur, in which hundreds or even thousands of worms are present, make infestation by ingestion of infected insects extremely improbable, if not impossible. Experimental infestations of man by ingestion of eggs have been produced by Grassi and by Calandruccio in Italy, but not under such rigorous experimental conditions as to make the results unassailable.

In the course of my work in Louisiana, I frequently found several members of a family infested with this parasite; in one instance, all of three examined; in two instances, two out of three; in one instance, two out of four; once, two out of five; once, two out of seven; and in ten instances, one out of from two to seven. In view of the fact that no method of concentration of the ova was used, it is quite possible, if not probable, that lighter infestations existed in other members of these families. Goldman² reports a case of seven out of eight children in one family infested. Grassi,³ Schloss⁴ and others have commented on the same fact. The epidemiology thus shows the same tendency toward distribution throughout a family as is found in the case of other intestinal parasites which do not require an intermediate host. Furthermore, Goldman² reports the finding of a number of strands of mucus, voided after repeated treatment with male fern to remove *Hymenolepis nana*, containing from two to eight heads of *Hymenolepis nana*, without any strobilization, each surrounded by a sac-like structure. These,

Goldman thought, might represent the cercocyst stage of the dwarf tapeworm, and he further believes that autoinfection is proved by the large number of worms present and their continued reappearance after treatment.

It seems reasonable to believe that the very heavy human infestations, in which hundreds or thousands of worms may be present, are the result of internal autoinfection, i. e., the development of ova from adult worms in the intestine, without ever having left the body of the host. Autoinfection of this kind with the cysticercoi of the pork tapeworm (*Taenia solium*) is known to occur. In the latter instance, and presumably also in the case of *Hymenolepis nana*, the ova must reach the stomach in order to escape from their protecting shells and continue development; but such a possibility can be brought about in a number of ways, e. g., suction as the result of vomiting, reversed peristalsis, and migration of the worms themselves. Tapeworms in their natural environment are active animals and move about as do other worms, occasionally, like *Ascaris*, passing through the stomach to the esophagus.

The question as to whether infestation can occur only by eggs acquired from human origin through such agencies as dirty hands, contaminated water, raw vegetables, flies or internal autoinfection, or also by eggs ingested with the excreta of infected rats or mice, is a question which cannot be determined until the identity or distinctness of *Hymenolepis nana* of man and *Hymenolepis murina* of rats has been finally settled. There are slight morphologic differences between the two species, but not greater than might be expected as the result of adaptation to different hosts. In a single instance Grassi succeeded in infecting one child out of six with eggs from infected rats, but under conditions which did not eliminate the possibility of the infestation having been otherwise acquired. Joyeux has failed in attempts to infect rats with eggs from the human parasite, but admits that his experiments have not been extensive enough to be conclusive, the difficulty having been in obtaining uninjured eggs in the human feces in sufficient concentration to make the experiments decisive.

In Louisiana I obtained several samples of feces containing *Hymenolepis nana* eggs in considerable numbers, but before experiments could be carried out on rats, the eggs in all but one sample had apparently died. In a portion of this sample some of the eggs were unquestionably alive, as shown by movements of the embryo when the outer shell was broken. This sample was fed to two white rats which were free from *Hymenolepis nana* infestation, although both contained *Hymenolepis diminuta*. At the end of eighteen days one rat died and was carefully examined for both cysticercoids and developing adult worms, but was negative. The other rat was killed and examined at the end of three weeks, but it also was entirely negative. It is estimated that each of these rats received somewhere between fifty and a hundred eggs. While, therefore, the evidence is still inconclusive, it seems to favor the distinctness of the rat and human parasites. The evident close relationship of the two, and the frequency with which rat and human parasites are interchangeable, would seem to favor the view that the human parasite has been derived as a variant of the rat parasite, adapted to live in the human intestine, somewhat as the trypanosome of Rhodesian trypanosomiasis is believed to be a variant of the parasite of nagana. If such were the case, it would not be out of

1. Joyeux, C.: Bull. Soc. de path. exot. 14: 386-390, 1921.

2. Goldman, A.: Am. J. Trop. Med. 1: 109-118, 1921.

3. Grassi, B.: Centralbl. f. Bakteriol. 1: 97-100, 1887; 2: 305-312, 1887.

4. Schloss, O.: Am. J. M. Sc. 139: 675, 1910.

the question that, under favorable conditions, these parasites, even though specifically distinct, might succeed in developing in the alternate host. Under such circumstances, rats and mice might be considered as possible but unimportant factors in the dissemination of the infection.

A very interesting situation in connection with the life history of *Hymenolepis murina* has been brought out by the finding by Johnston⁵ in Australia and by Nicoll and Minchin⁶ in England of cysticercoids in rat fleas, which on morphologic grounds were believed to be larval stages of this rat tapeworm. Dampf,⁷ in Germany, found a similar cysticercoid in a flea from a jerboa, which no less an authority than Lühe thought might belong to *Hymenolepis nana* (*murina*). On the other hand, Joyeux⁸ has not been successful in experimentally infecting any species of fleas either in the larval or in the adult state. If the interpretations with respect to the cysticercoids in fleas are correct, it would indicate that the larval stage of *Hymenolepis murina* could develop either directly in a single host, or more rarely in the primitive *Hymenolepis* manner, by the intervention of an invertebrate as an intermediate host. It would still be possible that *Hymenolepis nana*, if specifically distinct from *Hymenolepis murina*, might have departed farther from the ancestral habits and have lost entirely the ability, as its relative has lost the necessity, of developing in an intermediate host.

FREQUENCY OF INFESTATION

The frequency of infestation with *Hymenolepis nana* varies a great deal in different parts of the country, and in those instances in which inmates of sanatoriums or other institutions have been examined in a routine manner, the results cannot be taken as fairly representative, owing to the obvious probability of spreading of the infection under such conditions. De Buys and Dwyer,⁹ for instance, report 9.25 per cent. infestation among 595 children in seven different institutions in New Orleans, while Frey¹⁰ reported that 32.6 per cent. of 118 parasite infestations at the Texas State Orphan Home were with *Hymenolepis nana*. On the other hand, H. B. Wood¹¹ reported 1.59 per cent infestation of 62,785 persons examined in Southern state laboratories, and Kofoid, Kornhauser and Plate¹² found seven cases (0.6 per cent.) in 1,200 American overseas troops, and none in 300 home service troops. I found twenty-two cases, by the simple smear method, in a total of 1,963 examinations of children of school age in three northern Louisiana parishes (data kindly furnished by the International Health Board). It is evident, therefore, that, as was predicted by Stiles¹³ in 1903, *Hymenolepis nana* is the most common cestode parasite of human beings in the Southern states, and is undoubtedly much more common in many localities than all other tapeworms combined. The percentage of infestation in children of school age in the southern United States probably lies between 1 and 2 per cent. An estimate of a 10 per cent. infestation has been made for children in parts of Italy, particularly Sicily.

HYMENOLEPIS DIMINUTA AND OTHER SPECIES

The situation with respect to *Hymenolepis diminuta* is somewhat different. In this case there seems to be no question but that the human parasite is identical with that of rats. This species is one of the commonest, if not the commonest, worm infesting rats of the genus *Epimys*. In a recent examination that I made of the intestinal parasites of about 200 rats caught in the city of Houston, Texas, *Hymenolepis diminuta* was found to infest about 33 per cent., whereas *Hymenolepis murina* was found in less than 5 per cent. *Hymenolepis diminuta* also occurs, though more rarely, in the house mouse (*Mus musculus*) and occasionally in other rodents. Human infestation occurs by the accidental swallowing of an intermediate host, such as the larva of the meal moth (*Asopia farinalis*) and the meal worm (larva of *Tenebrio molitor*) and possibly other insects or larvae found in such foods as breakfast cereals, potato chips or dried fruits which are eaten without cooking. These meal worms have actually been shown in some instances to have been swallowed by human beings, possibly with corn meal, although it is difficult to see how they could escape destruction by heat in cooking the meal. Gedoelst expresses the opinion that accidental ingestion of rat fleas is a more probable means of infestation than ingestion of meal worms with poorly cooked bread, which, if not cooked sufficiently to destroy the insects and the cysticercoids within them, would be inedible; but he apparently overlooks the greater possibility of their ingestion with uncooked foods. The more extensive use of precooked cereals in the United States than in Europe might account for the greater number of cases of infestation in this country. The flea theory is not impossible in view of the fact that a considerable number of cases of human infestation with the double-pored dog tapeworm, *Dipylidium caninum*, have been recorded, particularly in children. This worm, as far as known, undergoes its larval development only in fleas and lice (*Mallophaga*). However, in view of the frequent intimacy which exists between dogs and children, the accidental swallowing of dog fleas, transferred possibly by the tongue of the dog, could occur much more readily than the swallowing of fleas from rats. The probability of infection from fleas is still more reduced by the fact that, judging from examinations of fleas from infected rats and also from feeding experiments, only about 4 per cent. of fleas become infected.⁶ Only fourteen specimens of *Hymenolepis diminuta* were recovered by Nicoll and Minchin from two rats which had been fed 340 fleas.

As would be expected, this infestation does not show a tendency to become prevalent in families or institutions; the number of worms in each case of infestation is comparatively few (from one to four), and the number of instances of human infestation is relatively small. Up to 1904, when Ransom¹⁴ compiled the known cases of human infestation with various species of *Hymenolepis*, only twelve cases had been reported; but since that time numerous other cases have been observed. Records of thirty-five cases are available, distributed geographically as follows: United States, including three hitherto unpublished records, twelve; Indian troops in Mesopotamian expeditionary force, eight (out of 2,981 examined); Brazil, three; Italy, six; and one each in Argentina, Grenada, East Africa (out of 1,500 examinations), France and Belgium. This wide geographic distribution, together with the

5. Johnston, T. H.: Proc. Roy. Soc. Queensland **24**: 63-91, 1913.
6. Nicoll, W., and Minchin, E. A.: Proc. Zool. Soc. London, 1911, No. 1, pp. 9-13.
7. Dampf, A.: Centralbl. f. Bakteriol. Orig. **54**: 452-454, 1910.
8. Joyeux, C.: Bull. Soc. de path. exot. **9**: 578-583, 1916.
9. De Buys, L. R., and Dwyer, H. L.: Studies of Stools in Children's Institutions, Showing Incidence of Intestinal Parasitic Infections, Am. J. Dis. Child. **18**: 269 (Oct.) 1919.
10. Frey, J. H.: Texas State J. M. **11**: 229, 1915.
11. Wood, H. B.: Intestinal Parasites in the South, J. A. M. A. **59**: 1707 (Nov. 9) 1912.
12. Kofoid, C. A.; Kornhauser, S. I., and Plate, J. T.: Intestinal Parasites in Overseas and Home Service Troops of the U. S. Army, J. A. M. A. **72**: 1721 (June 14) 1919.
13. Stiles, C. W.: New York M. J. **77**: 877, 1903.

14. Ransom, B. H.: Bull. 18, Hyg. Lab., U. S. P. H. S., 1904.

small percentage of cases in which large numbers of individuals were examined, is strong circumstantial evidence in itself to support the belief, which amounts almost to a certainty, that we are dealing with a parasite normally harbored by an animal other than man, and conveyed to the human host by an agency or set of circumstances which is not commonly realized.

The cases in the United States, reports of which have been published, occurred as follows:

- Boston, one case; Weinland, 1858; occurred in 1842.
Philadelphia, two cases; Leidy, 1884, and Packard, 1900.
Lee County, Ark., one case; Deaderick, 1906.
Minneapolis, one case; Nickerson, 1911.
Warsaw, Ind., one case; Schwartz, 1921.
Greenwood, Neb., one case; Stiles, 1921; occurred in 1906.
Washington, D. C., one case; Stiles, 1921; occurred in 1911.
Gastonia, N. C., one case; Stiles, 1921; occurred in 1912.

In an examination of 1,200 American overseas troops and 300 home service troops, Kofoid, Kornhauser and Plate¹² did not find a single infestation with *Hymenolepis diminuta*.

The three cases mentioned above as having been found in the United States, but not previously reported, were observed in the course of hookworm resurvey work being done by the International Health Board in the Southern states, two by myself in Louisiana, and one by Dr. E. C. Albritton in Georgia. These cases, all of which were diagnosed by the ova in fecal samples, are as follows:

1. Boy, aged 7, white, Mansfield, DeSoto Parish, La., July 30, 1921.
2. Boy, aged 13, negro, Cloutierville, Natchitoches Parish, La., June 19, 1921. *Ascaris* also present.
3. Boy, aged 6, negro, Moultrie, Ga., summer, 1921.

It is possible that human infestation with other species of *Hymenolepis* may occasionally occur. A single case of infestation with *Hymenolepis lanceolata* of ducks and geese has been recorded by Zschokke¹⁵ from a 12 year old boy at Breslau, who spontaneously evacuated two specimens, one at each of two different times. There can be little doubt that infection took place by the swallowing with drinking water of *Cyclops* or allied crustacea in which the cysticeroid of this species develops.

EFFECTS AND TREATMENT

The effects produced by *Hymenolepis* infestation in man are comparable with those produced by other tapeworms, and consist, especially in the case of *Hymenolepis nana*, of abdominal pains with or without diarrhea, and such nervous symptoms as convulsions, epilepsy and insomnia, often accompanied by headache and dizziness. Eosinophilia seems to be a practically constant condition. Nasal and anal pruritus is rare. Although it has been asserted that infestation with this diminutive parasite more regularly produces severe symptoms than do other tapeworms, Ransom has pointed out the probability that this is due to a larger percentage of nonsevere cases being overlooked. *Hymenolepis diminuta* infestations, since they are always light, usually produce no symptoms which can definitely be attributed to the parasites.

Treatment for these worms does not differ from treatment for other tapeworms. Male fern is the drug most frequently employed. *Hymenolepis nana* infestations have a tendency to recur after repeated treatments, no doubt owing partly to reinfestation from parasites still in the cysticeroid state in the intestine, some direct evidence for which was found by Goldman.²

15. Zschokke, F.: *Centralbl. f. Bakteriol. Orig.* 31: 331, 1902.

Even the adult worms, however, are not usually all expelled by a single treatment, since ova are often found in the feces even after two or three treatments. The worms are by no means easy to find in the feces when expelled. According to Deaderick,¹⁶ in nearly 25 per cent. of examinations made by various workers for expelled parasites the latter have not been found. The worms, as Hallock¹⁷ pointed out, "appear as very minute translucent or opalescent shreds not unlike mucus, and the greatest care is required lest they be overlooked." *Hymenolepis diminuta*, which may be regarded as an abnormal or accidental human parasite, is very easily expelled by anthelmintics or even by means of a cathartic, and probably is often evacuated spontaneously. In the single case of infestation with *Hymenolepis lanceolata*, also an accidental human parasite, the parasites were evacuated spontaneously. It might be concluded from this that the reason for the nonoccurrence of other species of *Hymenolepis* in man is not so much the inability of the worms to subsist in the human intestine as it is their failure to remain attached and their consequent early expulsion.

Rice Institute.

WHAT OUGHT THE UNITED STATES PHARMACOPEIA TO CONTAIN?

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It was pleasing to read the list of drugs recommended for deletion by the present Revision Committee of the Pharmacopeia,¹ i. e., 102 drugs listed for deletion from the ninth revision of the Pharmacopeia.

Ten years ago, when a member of the subcommittee on scope of the revision committee of the 1900 Pharmacopeia (the eighth revision), I urged the deletion of many drugs and preparations. More than eighty of these drugs now (1921) recommended for deletion by the whole, or the majority, of the revision committee were considered useless and urged for deletion by me in 1911. These eighty drugs were not considered useless by the majority of my colleagues in the committee, and hence appeared in the U. S. Pharmacopeia of 1910.

Only fifteen of the drugs recommended for deletion by the present committee are even mentioned in my recent book,² and of these fifteen I more or less condemn seven. Four others of the fifteen are for external use only and could well be deleted. The remaining four (caffaina citrata, caffaina citrata effervescens, calcii glycerophosphas and spigelia) I am ready to delete as the committee recommends. The two preparations of caffeine are not needed as long as we have good coffee and caffeine sodio-benzoas. While I think that calcium glycerophosphate is a valuable preparation, it can be omitted, as calcium lactate is as good a preparation; and, lastly, there are anthelmintic drugs better than spigelia. Consequently, I am ready to approve the decision of the revision committee to delete the 102 drugs and preparations listed.

But why stop there? Why not have a really useful, valuable tenth revision of the Pharmacopeia?

16. Deaderick, W. H.: *Hymenolepis Nana* and *Hymenolepis Diminuta*, *J. A. M. A.* 47: 2087 (Dec. 22) 1906.

17. Hallock, H. M.: *Tenia Nana*: Report of Two Cases, *J. A. M. A.* 42: 891 (April 2) 1904.

1. The United States Pharmacopeia: Many Deletions in the Tenth Revision, *J. A. M. A.* 77: 1994 (Dec. 17) 1921.

2. Osborne, O. T.: *Principles of Therapeutics*, 1921.

The last Pharmacopeia (1910) deleted 244 drugs and preparations from the eighth revision (1900). Sixty-seven new drugs and preparations were added to the 1910 revision, and of these, twelve are now recommended for deletion, showing that they did not survive the test of even six years (the 1910 Pharmacopeia was not published until 1916).

A number of substances are retained in the Pharmacopeia because it was claimed that it was a book of standards, and that the pure food and drug law needed the Pharmacopeia as a standard. It was never intended in that law that the Pharmacopeia should be made a standard for anything but drugs, not for foods, and not for substances that were not drugs. The Pharmacopeia has never been considered a standard for chemicals; and why should it be considered a standard for spices, for instance? In spite of my contentions in 1911, 1912 and 1913, most of these spices and some other materials were listed in the ninth revision. Now this present revision committee has recommended the deletion of anise, and that certainly eliminates the necessity of listing any of the spices in the Pharmacopeia for the sake of standardization.

I wish to urge the present revision committee to make this Pharmacopeia of small size, a standard for useful drugs. I therefore once more offer a list of substances, drugs and preparations that may well be deleted from the ninth revision.

1. Why attempt to standardize what cannot be standardized, and thus insult the remainder of this scientific book of standards? To wit, I would delete the substances listed in Table 1.

TABLE 1.—SUBSTANCES RECOMMENDED FOR DELETION BECAUSE THEY CANNOT BE STANDARDIZED

Aceps	Extractum Malti
Agar	Ferrum
Althaea	Gelatinum
*Amygdala Dulcis	Gossypium Purificatum
Amylum	*Humulus
Aqua	Limonis Cortex
Aqua Destillata	Linum
Aqua Destillata Sterilisata	*Maltum
Aurantii Amari Cortex	Manna
Aurantii Dulcis Cortex	Mel
Cera Alba	Mel Purificatum
Cera Flava	Mel Rosae
Cetaceum	Myrrha
*Chondrus	Resina
Coccus	Rosa Gallica
Emplastrum Elasticum	Sapo
Emplastrum Resinae	Sevum
Emplastrum Saponis	Zincum

* Drugs recommended for deletion by the present Revision Committee.

2. The spices given in Table 2 are out of place in a Pharmacopeia. Such aromatic oils as are needed may be listed, and standardized, if possible.

TABLE 2.—SPICES THAT SHOULD BE DELETED

*Anisum	*Foeniculum
Capsicum	Mentha Piperita
Cardamomi Semen	Mentha Viridis
Carum	Myristica
Caryophyllus	Piper
Cinnamomum Saigoncum	*Sinapis Alba
Cinnamomum Zeylanicum	Sinapis Nigra
*Coriandrum	Vanillinum
Cubeba	Zingiber

* Drugs recommended for deletion by the present Revision Committee.

Once again, after ten years, let me ridicule the absurdity of standardizing such substances as lemon-peel, orange-peel, iron wire, and the water which runs from the faucet in the back room of every drug store or pharmacy in the United States.

3. The chemicals named in Table 3 should no more be listed in the Pharmacopeia than many other chemical substances.

TABLE 3.—CHEMICALS THAT SHOULD BE DELETED

Acetoneum	Sodii Cyanidum
Benzinum Purificatum	Sodii Indigotindisulphonas
Ferri Chloridum	Zinci Chloridum

4. The drugs and preparations of the long list in Table 4 are either absolutely useless, or are very much inferior to other drugs and preparations of their various classes. For ready reference the list is arranged alphabetically. The drugs recommended for deletion by the present revision committee are marked with an asterisk, and in each instance I have the honor to agree with the committee. If requested, I can give a reason for the deletion of every drug and preparation here listed.

TABLE 4.—DRUGS AND PREPARATIONS THAT SHOULD BE DELETED

Acetum Scillae	Extractum Colocynthis
*Acidum Gallicum	Colocynthis Compositum
*Acidum Hydriodicum Dilutum	Gelsemii
*Acidum Hydrobromicum Dilutum	Gentianae
*Acidum Hydrocyanicum Dilutum	Hydrastis
Acidum Hypophosphorosum	Hyoscyami
*Acidum Hypophosphorosum Dilutum	Nucis Vomicae
Acidum Lacticum	Physostigmatis
*Acidum Nitrohydrochloricum	Stramonii
*Acidum Nitrohydrochloricum Dilutum	Sumbul
Acidum Oleicum	Taraxaci
Acidum Stearicum	Viburni Prunifolii
Acidum Sulphuricum Aromaticum	Ferri et Ammonii Citras
Acidum Sulphuricum Dilutum	*Ferri et Quininae Citras
Aconitina	Ferri Phosphas
*Aethylis Carbamas	Ferri Sulphas Exsiccatus
*Alumini Hydroxidum	Ferri Sulphas Granulatus
Ammonii Benzoas	Fluidextractum Aconiti
Ammonii Bromidum	Aromaticum
*Ammonii Iodidum	Aspidospermatis
*Ammonii Salicylas	Aurantii Amari
*Ammonii Valeras	Belladonnae Radicis
Aqua Amygdalae Amarae	Cannabis
Aqua Anisi	Cimicifugae
*Aqua Aurantii Florum	Cinchonae
Aqua Aurantii Fortior	Colchici Seminis
Aqua Chloroformi	Eriodictyi
Aqua Creosoti	Eucalypti
Aqua Foeniculi	Frangulae
*Aqua Rosae	Gentianae
Aqua Rosae Fortior	Grindeliae
Aqua Aromaticae	Guaranae
Argenti Oxidum	Hydrastis
*Arnica	Hyoscyami
*Aspidosperma	Lobelia
*Auri et Sodii Chloridum	Nucis Vomicae
Benzaldehydum	Pilocarpi
*Bismuthi Betanaphtholas	Podophylli
*Bismuthi et Ammonii Citras	Rosae
*Bismuthi Subsalicylas	Sabal
*Bromoforum	Sarsaparillae
*Caffeina Citrata	*Sarsaparillae Compositum
*Caffeina Citrata Effervescens	Senegae
Calcii Bromidum	Spigeliae
*Calcii Hypophosphis	Staphisagriae
*Calcii Sulphidum Crudum	Stillingiae
Calumba	Sumbul
Cambogia	Taraxaci
*Camphora Monobromata	Tritici
Cannabis	Uvae Ursi
Ceratum Resinae	Viburni Prunifolii
*Cerii Oxalas	Xanthoxyli
*Cimicifuga	*Frangula
Cinchoninae Sulphas	Galla
Colchici Cormus	Gambir
Colocynthis	Gelatinum Glycerinatum
*Copaiba	Glyceritum Hydrastis
Cotarninae Hydrochloridum	Glycyrrhizinum Ammoniatum
Creosoti Carbonas	Grindelia
*Diacetylmorphina	Guaiacol
*Diacetylmorphina Hydrochloridum	Guaiacol Carbonas
*Diastasum	*Guaiacum
Emplastrum Plumbi	Guarana
Emulsum Asafoetidae	*Hydrargyri Oxidum Rubrum
Olei Terebinthinae	Hydrargyrum cum Creta
Eriodictyon	*Hydrastina
Eucalyptus	*Hydrastininae Hydrochloridum
Eugenol	Hydrastis
Extractum Aconiti	Hyoscyaminae Hydrobromidum
Cannabis	Hyoscyamus
Cimicifugae	Infusum Sennae Compositum
Colchici Cormi	Kino
	*Lactucarium
	Linimentum Belladonnae

TABLE 4.—DRUGS AND PREPARATIONS THAT SHOULD BE DELETED—Continued

Liquor Acidi Arsenosi	*Sparteinae Sulphas
Ammonii Acetatis	*Spigelia
Arseni et Hydrargyri Iodidi	Spiritus Aetheris
Ferri Chloridi	Aetheris Nitrosi
Ferri et Ammonii Acetatis	Ammoniae Aromaticus
Ferri Subsulphatis	Amygdalae Amarae
Ferri Tersulphatis	Anisi
Plumbi Subacetatis Dilutus	Aurantii Compositus
Potassii Citratis	Cinnamomi
*Sodii Arsenatis	Juniperi Compositus
Sodii Glycerophosphatis	Lavandulae
Zinci Chloridi	Menthae Viridis
*Lithii Bromidum	*Staphisagria
*Lithii Carbonas	Stillingia
*Lithii Citras	*Strontii Bromidum
Lobelia	*Strontii Iodidum
*Mangani Dioxidum Praecipitatum	*Strontii Salicylas
Massa Ferri Carbonatis	*Strychnina
*Matriacaria	Syrax
*Mezereum	*Sumbul
Mistura Glycyrrhizae Composita	Syrupus Acidi Hydriodici
Moschus	Aurantii Florum
*Oleoresina Petroselini	*Calcii Lactophosphatis
*Piperis	*Hypophosphitum
*Zingiberis	Lactucarii
Oleum Amygdalae Amarae	Picis Liquidae
Aurantii	*Sarsaparillae Compositus
Cajupiti	Scillae
Cari	Scillae Compositus
Coriandri	Senegae
*Cubebae	*Taraxacum
Foeniculi	Terebentum
Kimonis	Theophyllina
Menthae Viridis	Tincturae Arnicae
Myristicae	Asafoetidae
*Pimentae	Aurantii Amari
Rosmarini	Benzoini Composita
Sassafras	Calumbae
Sinapis Volatile	Cannabis
*Thymi	Cinchonae Composita
Petroselinum	Gambir Composita
Phosphorus	Guaiaci
*Physostigma	Guaiaci Ammoniat
Pilocarpinae Nitras	Hydrastis
*Pilocarpus	Hyoscyami
Pilulae Catharticae Compositae	Kino
Ferri Iodidi	Lactucarii
Phosphori	Lavandulae Composita
Plumbi Oxidum	Limonis Corticis
Potassa Sulphurata	Lobeliae
*Potassii Hypophosphis	Moschi
Pulvis Aromaticus	Myrrhae
*Pyrethrum	Physostigmatis
*Quininae Salicylas	Pyrethri
Resina Jalapae	Sanguinariae
Scammoniae	Stramonii
*Sabal	Tolutana
Salicinum	Valerianae
*Sanguinaria	Valerianae Ammoniat
Santalum Rubrum	*Triticum
*Sarsaparilla	Unguentum Diachylon
*Sassafras	Gallae
Scammoniae Radix	Hydrargyri Nitrat
Senega	Stramonii
Serpentaria	*Uranii Nitras
Sodii Acetas	Uva Ursi
*Sodii Arsenas	Valeriana
*Sodii Arsenas Exsiccatus	*Veratrina
Sodii Carbonas Monohydratus	Viburnum Prunifolium
*Sodii Glycerophosphas	*Xanthoxylum
Sodii Hypophosphis	*Zinci Acetas
*Sodii Perboras	*Zinci Carbonas Praecipitatus
*Sodii Phenolsulphonas	*Zinci Phenolsulphonas
Sodii Sulphis Exsiccatus	*Zinci Valeras
Sodii Thiosulphas	

*Recommended for deletion by the present revision committee.

Some of these drugs and preparations are without useful activities; a few have dangerous activities (such as aconitina and linimentum belladonnae) and should therefore be deleted; some were once much used and have now gone into innocuous desuetude (such as infusum sennae compositum, spiritus aetheris nitrosi, and liquor ammonii acetatis); some catered to the belief in the mysterious (liquor ferri et ammonii acetatis); some are preparations of really useful drugs, but in such preparations the drugs are much less valuable than in other preparations, and therefore these preparations are superfluous; some few were officialized because the demand for them was created by pharmaceutical and nostrum propaganda; some multiple mixtures were retained in the last Pharmacopeia which should be deleted from the tenth revision; some of these preparations are ancient and honorable but have as yet retained their respectability (such as

mistura glycyrrhizae composita and pilulae catharticae compositae), while others, though ancient and honorable, have lost caste. Why keep the honey in massa ferri carbonatis? Why keep the serpentaria in tinctura cinchonae composita? Why keep the aloes in tinctura benzoini composita?

It would be little less than the beginning of the millennium to have the tenth revision of the United States Pharmacopeia of such a convenient size, containing only useful drugs (i. e., drugs and preparations that are known to have some medicinal value), that every physician would have it on his desk for constant use. Consequently, I realize that various kinds of force will be exerted to prevent the deletion of the long list of drugs and preparations recommended for the waste basket. But let the revision committee allow its medical men to decide what drugs are needed in the Pharmacopeia. It should not be a decision for the pharmacists or for the pharmaceutical chemists. After the medical men decide the drugs they want, the scientific pharmacists should decide the assays necessary to secure standards and purity of these drugs. The pharmaceutical and chemical experts should then decide what are the most efficient and the pleasantest preparations, while the dosage should be agreed on by pharmacologists and clinicians jointly.

177 Church Street.

THE COLLECTION AND THE PRESERVATION OF HUMAN MILK

PRELIMINARY REPORT *

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When we consider the high value of human milk in the feeding of infants, especially those who are losing weight steadily on artificial feeding, it is strange that there have not been more attempts to preserve it. In cases in which the mother's milk has failed, wetnurses can be employed by the well-to-do; but wetnurses are trouble makers, and perhaps it is just as well that the number is limited. In Boston either wetnurses or human milk are obtainable at the Directory for Wet-Nurses, and this institution is of the greatest value. Such drawn breast milk must necessarily be used within a very few hours' time. This method, therefore, is open to the objection that, in addition to its being expensive, the supply is inelastic. Ordinarily, human milk, when needed, is obtained only with difficulty and after delay, and even then the supply is often maintained with much inconvenience. The source of supply seems always to be on the far side of the city, and any trifle, such as the state of the mother's feelings, may be enough to cause her to refuse quite suddenly to sell any more milk. At times, on the other hand, a mother has more than enough milk for her new baby and asks her physician whether he does not know of some baby who would be benefited by it. Frequently he can find no baby who needs it, for at that moment all his feeding cases are doing well.

What is needed is a process whereby the supply of breast milk can be made uniform. Mayerhofer and Pribram (cited by Knapé¹) in 1909, preserved human milk by means of hydrogen peroxid, but as the milk grew older it became more acid and acquired a musty

* From the Medical Service and Laboratories of the Boston Floating Hospital.

¹ Knapé: Ueber Konservierung von Frauenmilch, Monatschr. f. Kinderh. Orig. 10: 281, 1911.

odor. The longest time they succeeded in keeping the milk so that babies could be fed on it was thirty-two days. The babies gained weight satisfactorily, but vomited a good deal.

Knapé,¹ in 1911, repeated the work of Mayerhofer and Pribram, obtaining the milk fresh, and under aseptic conditions. He then added hydrogen peroxid and kept the flask containing the milk in the cold and in the dark. The milk became more acid gradually, the bacterial count went up, and after ten days a musty smell appeared.

For many years the Boston Floating Hospital, through its onshore nursing staff, headed by Miss Martha H. Stark, with the cooperation of the Lying-In Hospitals and obstetricians, has collected human milk daily in the mothers' homes. In the summer of 1915, in the eighty days in which the Floating Hospital accepted feeding cases, 368½ quarts (358.7 liters) of human milk were thus collected. A complete social and medical history of the mother is first obtained and a blood Wassermann test done (this was occasionally omitted at first if the mother's physical examination as done by a physician was negative and her baby obviously thriving, but since 1918 every case has had the Wassermann examination). The mother is instructed in the care of her breasts, and in the method of obtaining the milk in a cleanly fashion. She is provided with a breast-pump or taught the technic of manual expression as used by Sedgwick and each day sterile bottles are brought to her. As she fills a bottle it is placed on ice. When the mother does not possess an icebox she is shown how to construct one cheaply, large enough to hold several 8 ounce (236 cubic centimeter) nursing bottles. Much of this milk is contributed gratis by the mothers. Occasional instances of diluting the milk with water were found at first, and had to be summarily dealt with; but, after twelve years of experience with the same nurse to supervise the collection, we have found this factor practically negligible. The nurse carries an ice-cap filled with ice in her bag, in this way keeping the milk cool while taking it to a convenient drug store, where the clerk obligingly places it on ice while she goes out to collect more. When ready to return, she gathers her collection and carries it directly to the hospital, where all the milk is mixed, pasteurized, and placed in the refrigerator.

By this method we can depend on a large part of the human milk our babies require. Each summer a source of supply is built up, and each autumn, with the closing of the hospital, it is lost. If we could maintain the collection of human milk throughout the year, we could collect much more milk and collect it at a time of year when the milk would be much less liable to spoil.

The success met in feeding babies dried cow's milk led us to consider the possibility of drying human milk. Mr. A. W. Bosworth, formerly our chemist, succeeded in drying whole human milk. Mayerhofer and Pribram (cited by Lane-Clayton²) added calcium peroxid to human milk, and then dried it, with and without the fat content. In some cases, babies were fed on this dried milk with success. The problem, however, of drying enough human milk so that its value as a food can be determined is a difficult one. The ordinary method of drying milk which is at hand in the chemical laboratory of a hospital is too slow for the amount needed. It is likewise open to the criticism of contamination and chemical change. The commercial driers of cow's milk would have to be given a much

larger quantity of human milk than we could possibly obtain at one time. We are at present engaged in experimental work on the preparation of a satisfactory method of drying such milk.

Two other methods of preserving human milk were considered. The first one, that of evaporating the milk and adding sugar as a preservative, thus making a human condensed milk, was not considered practicable by Mr. Bosworth. The second method, of preserving the fat alone, and homogenizing it with cow's skim milk, we were led to try after reading Finkelstein's experiment. Mr. Bosworth prepared a 12 per cent. fat from human milk. By combining this with cow's skim milk, and adding lactose, we obtained a milk which had the formula: fat, 3 per cent.; sugar, 7 per cent.; protein, 1 per cent. This was made up as in Table 1.

TABLE 1.—COMPOSITION OF MILK

12 per cent. human milk fat.....	160 c.c. (5½ fluidounces)
Fat-free cow's milk.....	205 c.c. (7 fluidounces)
Sterile water.....	285 c.c. (7½ fluidounces)
Lactose.....	36.5 gm. (563 grains)

This milk was for two weeks fed to a baby 7 weeks old whose family and past history, and whose physical examination were negative. The baby had been fed on the breast for a short time after birth. When it came to us the baby was doing well on a formula of fat, 2 per cent; lactose, 6.5 per cent.; protein, 1 per cent. He was given fresh drawn breast milk for ten days, and then put on the homogenized mixture. The infant took the milk well, was perfectly contented, and gained, on the average, 29 gm. (447.5 grains) a day for sixteen days. The stools were a little darker than the ordinary human milk stool, and contained just about as much soap. The stools numbered usually from one to three. This milk fat had been saved, on ice and in the dark, for one month, and had been pasteurized twice. Some was saved to determine how long it would keep, but unfortunately was thrown out about four months later. Table 2 gives the date, the kind of food, the twenty-four hour amount of food, the caloric value per kilogram of body weight and the weight of the baby fed on preserved human milk fat (1 month old) and cow's skim milk.

TABLE 2.—RESULTS OF FEEDING

Date	Food	24 Hour Amount C.c. ounces	Fluid-ounces	Caloric Value per Kilogram of Body Weight	Weight Gm. Lbs.
12/9/20	3-5.25-1.20 Drawn human milk.....	420	14	87	2,636 5½
12/11/20	4-7-1.5 Drawn human milk.....	600	20	156	2,721 6
12/19/20	3-7-1 Human fat homogenized with cow's skim milk....	700	23½	141	2,948 6½
12/21/20	Human fat homogenized with cow's skim milk....	700	23½	139	3,033 6½
1/4/21	Human fat homogenized with cow's skim milk....	700	23½	123	3,416 7½

CONCLUSIONS

Human milk fat can be preserved at least a month. When combined with cow's skim milk and fed to a baby for a short period of time, we may expect a gain in weight equivalent to that obtained with whole breast milk, as shown by the case cited. Such milk might be used to advantage with babies who have an intolerance for cow's milk fat, but the milk preserved in this way is expensive and difficult to prepare. Drying human milk, we feel, is more feasible and much less expensive. 40 Wigglesworth Street.

2. Lane-Clayton, Janet E.: Milk and Its Hygienic Relations, New York, Longmans, Green & Co., 1916, p. 315.

BLUISH DISCOLORATION OF THE UMBILICUS

IN THE DIAGNOSIS OF RUPTURED EXTRA-UTERINE PREGNANCY *

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In 1919, Cullen¹ called attention to a "bluish discoloration of the umbilicus as a diagnostic sign where ruptured extra-uterine pregnancy exists." The patient on whom he had observed this sign was a woman of 38 who had suffered with pain in the right lower abdomen for three weeks. The patient had not missed any menstrual period and there had been no uterine bleeding. In spite of the latter fact, Cullen states that "the bluish-black appearance of the navel unassociated with any history of injury, together with the mass to the right of the uterus, made the diagnosis of extra-uterine pregnancy relatively certain." This diagnosis was confirmed on opening the abdomen, which was found to be filled with dark blood. Some recent experiences with extra-uterine pregnancy have convinced me of the value of this "blue belly-button" sign of Cullen.

REPORT OF CASES

CASE 1.—History.—E. W., aged 19, nullipara, was seen in consultation with Dr. W. G. Coppage, Aug. 21, 1921. Menstruation had been normal until June, the last period having occurred, June 6. There was no flow in July, but on August 3 uterine bleeding began and had been present, though scantily and intermittently, up to the day the patient was seen. There had been pain in both sides of the lower abdomen throughout the flow. Early on the day on which I saw her, this pain had become much more severe, and the patient soon complained of faintness and nausea. **Weakness**, pallor and shock became pronounced, and the clinical picture, when I saw her, was the classical one of grave internal hemorrhage.

Examination.—There was extreme pallor of the skin and mucous membranes, the lips being almost white. The pulse was 140, the respiration shallow and feeble. The abdomen was full and rounded, with much tenderness over the entire lower zone. Percussion gave dullness over both flanks. Around the umbilicus was a well-defined areola of greenish-yellow discoloration, extending for about 1 cm (three-eighths inch) beyond the edges of the umbilical depression. Pelvic examination revealed the uterus to be slightly enlarged and pushed to the right by a large, very tender mass occupying the left iliac fossa. Examination of the blood disclosed only

2,400,000 red blood corpuscles to the cubic millimeter, with a hemoglobin of 50 per cent. The diagnosis of ruptured left tubal pregnancy was made, and the patient was at once sent into the South Baltimore General Hospital for operation.

Operation.—Without going into details, suffice it to say that on opening the abdomen a large quantity of both liquid and clotted blood escaped. It had apparently been retained under considerable tension. The left tube was the seat of the gestation sac, and presented a ragged rupture about 2 cm. (three-quarters inch) in diameter. The pregnant tube was quickly removed in the usual manner. The patient made an uninterrupted recovery.

CASE 2.—History.—L. H., aged 26, seen, Aug. 26, 1921, in consultation with Dr. L. J. Dobihal, had been married about seven years and had had two children, the younger five years previously. Since then there had been a number of abortions, all said to have been self-induced. The last regular menstrual period had occurred, July 17. Uterine bleeding reappeared, August 5, and had been present constantly since then, although the amount was small. For two weeks there had been frequent attacks of crampy pain in the lower abdomen, especially in the right side. These attacks had often been accompanied by nausea and faintness.

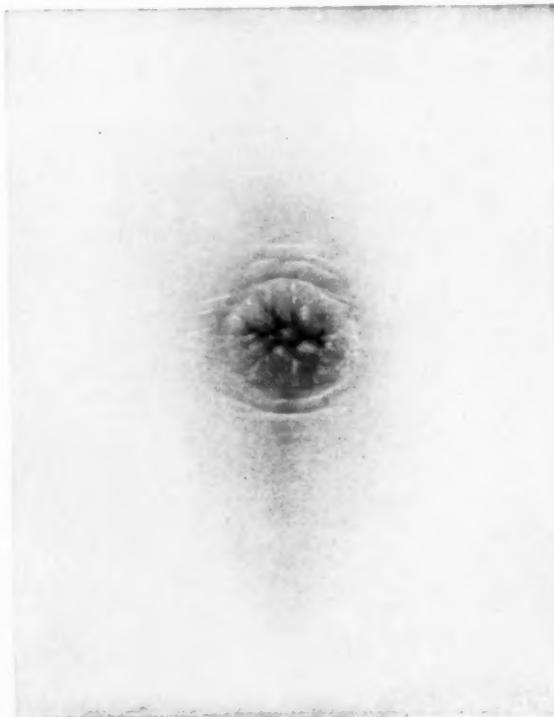
Examination.—The general condition of the patient was good, the pulse being 110, temperature 99.5 F. Abdominal examination revealed the abdomen to be rather rounded, with a heavy layer of adipose tissue. There was some diffuse tenderness over the lower zone, especially on the right side. Percussion disclosed movable dullness in both flanks, and tympany elsewhere. Surrounding the umbilicus there was a greenish-blue area of pigmentation. Pelvic examination revealed the uterus to be normal in size and position. There was marked tenderness in the right side of the pelvis, where a small, tender mass could be indefinitely palpated. The left side of the pelvis was negative. The blood count revealed 11,000 leukocytes. A diagnosis was made of right tubal pregnancy, and the patient was sent into the hospital for operation.

Operation.—At the operation, August 18, the right tube was found to be the seat of a spindle-like enlargement, due to a right tubal pregnancy. The widest

diameter of the tube was only about 3 cm. ($1\frac{3}{16}$ inches), explaining how difficult its palpation would be in a stout person. The fimbriated extremity was stuffed with clots, the large amount of blood present in the pelvic and abdominal cavities being the result of tubal abortion. The right tube was excised and the appendix also removed. Recovery was uneventful.

COMMENT

The explanation of this discoloration of the umbilicus in cases of extensive intraperitoneal hemorrhage is probably to be sought in the lymphatics of the umbilical region. The case of localized jaundice of the umbilicus reported in 1905 by Ransohoff,² to



Cullen's original picture, reprinted with permission from "Contributions to Medical and Biological Research, dedicated to Sir William Osler in honour of his Seventieth Birthday, July 12, 1921, by his pupils and co-workers." Bluish discoloration of the umbilicus associated with a ruptured extra-uterine pregnancy. This picture was obtained at operation three weeks after the first symptoms developed. The umbilicus itself has now turned a light green; above it the tissue has a faint bluish tinge; below the umbilicus the blue is marked.

* From the gynecologic department of Johns Hopkins Medical School.
1. Cullen, T. S.: Bluish Discoloration of the Umbilicus as a Diagnostic Sign Where Ruptured Extra-Uterine Pregnancy Exists, Contributions to Medical and Biological Research, dedicated to Sir William Osler, 1919.

2. Ransohoff, Joseph: Gangrene of the Gallbladder: Rupture of the Common Bile Duct, with a New Sign, J. A. M. A. 46: 395 (Feb. 10) 1906.

which Cullen refers, is of great interest in this connection. It was one of rupture of the common bile duct, the abdominal cavity containing a large amount of free bile. The umbilicus in this patient was of a saffron-yellow hue, in sharp contrast to the skin over the rest of the abdomen. Ransohoff is inclined to believe that the phenomenon is the result of simple inhibition, but the more likely mechanism would seem to be that the bile pigments are deposited in the skin after absorption by the lymphatics. The abdominal wall is quite thin in the region of the umbilicus, and there is a rather rich anastomosis between the intraperitoneal and extra-peritoneal lymphatics at this point. This has been emphasized by Handley and others in connection with the extension of carcinoma of the liver and stomach to the periumbilical skin region. Reversely, it is not uncommon for carcinoma of the breast to make its way into the abdominal cavity by these channels, the cancer cells finding their way even to the ovary at times.

The discoloration is not always bluish. In one of my cases it was a greenish-yellow, resembling a fading bruise. The different hues are unquestionably due to the differing degrees of oxidation of the deposited blood pigments, as in the case of the ordinary bruise. If this is true it would follow that a dark bluish discoloration would indicate a recent hemorrhage, while a greenish-yellow or orange colored pigmentation would suggest that the intra-abdominal blood had been present for some time. It need scarcely be said that no discoloration at all can be expected when the hemorrhage is so cataclysmic that the patient comes under observation very soon after its occurrence, for the reason that there is insufficient time in such cases for the occurrence of absorption.

Recently, Hellendall³ has called attention to a similar discoloration of the umbilicus, and describes it as a new diagnostic sign. He is apparently ignorant of Cullen's article, published two years earlier. Furthermore, he evidently believes that it is observed only in cases of ruptured extra-uterine pregnancy associated with umbilical hernia, as in the case which he reports. There can be no doubt, therefore, that the credit for first describing this valuable sign belongs to American surgery.

It is hardly necessary to say that Cullen's sign would hardly be positive in cases of extra-uterine pregnancy which are not associated with intraperitoneal hemorrhage of considerable degree. Nor need it be emphasized that severe intra-abdominal hemorrhage due to other causes than extra-uterine pregnancy might cause the umbilical discoloration as well. Cases of the latter type, however, are so rare that, to all intents and purposes, the sign may be considered one especially applicable to the diagnosis of ruptured extra-uterine gestation. While the recognition of severe intra-abdominal hemorrhage is often simple enough, there are not a few cases in which such a hemorrhage causes comparatively little general effect, and may be difficult of recognition. The demonstration of Cullen's sign in such cases will, I am sure, be of considerable value in diagnosis.

26 East Preston Street.

3. Hellendall, H.: Ein neues Symptom der Extrauterinschwangerschaft, *Zentralbl. f. Gynäk.* 45: 890, 1921.

Pellagra in Italy.—*Lavoro* publishes an account of the report by a committee appointed in 1910, which found that pellagra declined during the war because of changes in the quality of the food for various reasons connected with the war, especially the scarcity of corn.

THE ETIOLOGY OF ORTHOSTATIC ALBUMINURIA *

WILLY RIESER, MD.

AND

SIDNEY L. RIESER, MD.

NEW YORK

The finding of albumin in the urine is always of importance, and lays upon the medical attendant who makes the observation the obligation to determine, if possible, the cause of this sign and to appraise its significance. Few, if any, more interesting renal phenomena than orthostatic albuminuria come to our notice. It was observed as early as 1887, and variously named cyclic, physiologic, intermittent, orthotic or orthostatic albuminuria. Orthostatic albuminuria is the most fitting appellation, as it designates an albuminuria which occurs only in the upright standing posture. But none of these names adequately explain its pathogenesis.

In our cases the albumin appears in urine voided from three to seven minutes after the erect posture has been assumed, and it disappears completely from the urine voided from three to seven minutes after the horizontal or lying posture is taken. Quantitatively, there is usually a heavy or very heavy trace.

This condition is most commonly observed in children and adolescents, but is not uncommon in adults. One of our patients is 24 years old, the other, 28. It occurs equally in the two sexes. These patients present a general relaxation and atonia of muscular and ligamentous structures, both skeletal and visceral, which manifests itself in the long thorax, with dropped heart and low diaphragm, the scaphoid abdomen and the marked visceroptosis. The faulty ligamentous structure gives them an abnormal loose jointedness and hyperflexibility of the spine.

Subjectively, they are of the asthenic type, easily fatigued, especially by effort in the standing posture, and most of all by the act of standing itself. They are subject to syncopal attacks, cardiac palpitation, headaches, and other evidences of vasomotor instability.

Orthostatic albuminuria is differentiated from nephritis and the inflammatory albuminurias by its prompt and complete disappearance, on correction of the upright posture, or the assumption of the horizontal. The urine secreted in the horizontal posture is normal in quantity and is free from any pathologic formed or chemical elements. During the albuminuric periods there is a marked oliguria, without increase of specific gravity. There is no impairment of salt and urea elimination. The pigments are increased, and phenolsulphonophthalein excretion is definitely diminished. Concomitant with the disappearance of the albumin, there is a return to normal elimination quantitatively and qualitatively. Hence it seems that the frequent and sudden albuminuric periods are attributable to renal dysfunction, not conditioned on intrarenal lesion, but on a factor which becomes operative through these postural changes, and which in turn suspends its influence in a similar manner.

EXPLANATIONS OF THE PHENOMENON

The modus operandi of this postural change in the production of the albuminuria has been the subject of speculation and investigation for many years. The earliest observers held renal hyperpermeability, inflam-

* Read before the Society of Lebanon Hospital Alumni, Dec. 13, 1921.

matory lesions, and increased venous pressure¹ as possible causes.

Erlanger and Hooker,² in a painstaking and detailed series of experiments on blood pressures, pulse pressure and other vasomotor functions, investigated a case of orthostatic albuminuria. They found both in the normal individual and in the albuminuric a rise in diastolic pressure and a corresponding decrease in pulse pressure in the upright position. The albuminuric, however, has a smaller pulse pressure than the normal subject, and they conclude that this is due to a greater vasomotor instability of the albuminuric. They hold that this vasomotor disturbance stands in possible causal relation to the albuminuria, without advancing any theory as to what the disturbance in the underlying physiologic mechanism might be.

Mason and Erickson³ assert that they have confirmed this observation. They consider the low pulse pressure as the indubitable cause of the albuminuria, and do not believe it due to the mechanical interference with the return flow from the kidney.

Jehle,⁴ in 1908, demonstrated that all orthostatic individuals showed a lordosis in the upright posture. Such a lordosis was a rare and exceptional finding in otherwise normal persons, and on the basis of this finding, supported by the observation that with proper correction of the lordotic position the albuminuria could be prevented, he concludes that the lordosis is the direct cause of the albuminuria. He was the first to suggest a purely mechanical factor as the cause of the albuminuria. He was able in his experiments to prevent albuminuria in the upright posture by correcting the lordosis, either with postural modification, such as bending the knee in the standing position, or by having the patient sit down.

Sonne,⁵ in 1918, reported eleven cases of orthostatic albuminuria, in all of which ureteral catheterization showed a normally secreting right kidney, and an albuminuric left kidney.

REPORT OF AUTHORS' CASES

CASE 1.—History.—Mrs. P. W., aged 24, weight 101 pounds (45.8 kg), height, 5 feet (1.5 meters), housewife, born in the United States, whose family history was negative and whose right kidney was removed in 1917 because of a cystic degeneration of congenital origin, which had completely destroyed the function, complained of lassitude which became painful fatigue on effort, especially on standing, and of dizziness with anorexia and epigastric fulness and discomfort after eating. There were severe mental depression and restlessness. These symptoms had persisted for the last four months. The menstrual function was normal.

Physical Examination.—The general musculature was underdeveloped. There was hypermobility of all joints, due to ligamentous relaxation. The spine could be extended to lordosis with effort. The pupillary and knee reflexes were normal. The tonsils and teeth were normal; there were no lymphatic nodes. The thorax was long and thin. The heart, of the drop type, was normal in size and rhythm. The lungs were normal. The abdomen was of scaphoid shape. The right flank showed a nephrectomy scar. The left kidney was not palpable. The liver was palpable at the costal border.

Röntgenologic Examination.—There was no evidence of a defect in the outline of the stomach or duodenum. There was marked ptosis of the stomach, the entire organ lying below the crest of the ilium. The stomach was atonic in type. A six hour plate revealed retention. A twenty-four hour plate

disclosed the meal in the rectum and ascending colon, and quite a large amount of barium in the cecum.

Conclusions.—There was marked gastro-enteroptosis with cecal stasis.

TABLE 1.—URINARY FINDINGS IN CASE 1

Quantity, C.c.	Specific Gravity	Albumin* per Cent.	Urea, per Cent.	Comment
58	1.018	0	1.8	On arising in morning
44	1.014	0	1.3	On arrival at office with corset
8	.....	H. T.	3.6	Standing 15 minutes without corset
2.6	.....	H. T.	2.4	Standing 30 minutes without corset
4.4	.....	V. H. T.	2.8	Standing 15 min. with loose corset
9.0	.....	F. T.	1.4	Standing 15 min. with loose corset
14	.....	V. F. T.†	0.5	Lying 15 minutes with corset
56.2	1.006	0	0.1	Lying 7 minutes without corset
85	1.005	0	0.1	Standing 15 minutes with corset
40	1.007	V. F. T.‡	0.2	Standing 30 minutes with corset

Phenolsulphonephthalein:	Standing Without Corset		Standing With Corset	
	C.c.	Per Cent.	C.c.	Per Cent.
First hour.....	143	25	235	32
Second hour.....	35	8	240	23

Microscopic examination was always negative.
* H. T., heavy trace; V. H. T., very heavy trace; F. T., faint trace; V. F. T., very faint trace.
† One glass of water was taken.
‡ Not detectable by Heller's test.

CASE 2.—History.—Miss L. L., aged 28, weight 121 pounds (54.8 kg.), born in the United States, whose family history was negative, remembered that since early childhood she had had dizziness, which became faintness if the standing posture was maintained. Ten years before we saw her she was placed at absolute rest and on a sharply restricted diet for six weeks as a treatment for chronic nephritis. Nine years before, she was ill of pneumonia two weeks. The patient was in possession of apparently good health except that she was unable to hold the erect posture for more than a minute or two without dizziness, which went on to faintness if persisted in. Exercise—walking or dancing—did not cause these symptoms. The menstrual function was normal.

Physical Examination.—The general musculature was good. The spine could be extended to lordosis with effort. The pupillary and knee reflexes were normal. The tonsils and teeth were normal; there were no lymphatic nodes. The thorax was long and thin. The heart was of the drop type and was normal in size and rhythm. The lungs were normal. The abdomen was normal. The liver and kidneys were not palpable.

TABLE 2.—URINARY FINDINGS IN CASE 2

Quantity, C.c.	Specific Gravity	Albumin %	Urea %	Chlorids, %	Comment
1. 33	1.016	V. F. T.*	1.8	1.8	On arrival after walking 45 minutes with corset
2. A } 28	1.017	{ F. T. }	2.2	2.0	{ A. Standing 10 minutes with corset
2. B }		{ V. F. T.* }			{ B. Standing 20 minutes with corset
3. A } 10	1.020	{ V. H. }	2.4	2.0	{ A. Standing 10 minutes without corset
3. B }		{ V. H. }			{ B. Standing 18 minutes without corset

* Not detectable by Heller's test.

Röntgenologic Examination.—There was no evidence of a defect in the outline of the stomach or duodenum. The stomach was ptosed, its greater curvature being well below the crest of the ilium. The motility was normal. There was marked ptosis of the transverse portion of the colon.

Conclusions.—In this case there were gastroptosis, enteroptosis, coloptosis and colonic stasis.

URINALYSIS

The urinalyses, frequently repeated, yielded fairly constant results, as indicated in the accompanying tables. The upright posture with unsupported viscera was attended by a marked oliguria. In Patient 1, with the right nephrectomy, whose entire excretion came from the left kidney, the total output during this phase

1. Sterling: Albuminuria in the Apparently Healthy, *Lancet* 2: 1157, 1887.
2. Erlanger and Hooker: *Johns Hopkins Hosp. Rep.* 4: 148, 1904.
3. Mason, E. H., and Erickson, R. J.: *Am. J. M. Sc.* 156: 643 (Nov.) 1918.
4. Jehle, Ludwig: *München. med. Wehnschr.* 55: 12, 1908.
5. Sonne, C.: *Hospitalstid.* 61: 800, 817 (June 12, 19) 1918.

fell as low as 2.6 c.c. for a fifteen minute period. When both kidneys are present it is unlikely that so sharp an excretory diminution will occur. With visceral support or on assumption of the horizontal posture, there occurs a prompt diuresis. The specific gravity of the urine shows no marked fluctuation, but it is noted that the urine voided during the period of diminished excretion has a lower specific gravity, and that the specific gravity rises with the increase of the urine output. In other words, the oliguria is not attended by concentration. The urea and chlorid elimination shows no variation from normal in the albuminous urine. The phenol-sulphonphthalein excretion shows a marked diminution.

BLOOD AND PULSE PRESSURE

The blood pressure in Patient 1 after fifteen minutes in the erect posture without a corset, during which a heavily albuminous urine accumulated in the bladder, was: systolic, 106; diastolic, 84; pulse pressure, 22. When the same patient wore a supporting corset in the erect posture for fifteen minutes, during which time an albumin-free urine accumulated in the bladder, the blood pressure was: systolic, 104; diastolic, 82; pulse pressure, 22. After fifteen minutes in the horizontal position, it was: systolic, 108; diastolic, 64; pulse pressure, 44.

In Patient 2 the blood pressure, after fifteen minutes in the erect posture, without a corset, was: systolic, 118; diastolic, 88; pulse pressure, 30. When the patient wore a supporting corset in the erect posture for fifteen minutes, the blood pressure was: systolic, 115; diastolic, 88; pulse pressure, 27. After fifteen minutes in the horizontal position, it was: systolic, 115; diastolic, 65; pulse pressure, 50.

We confirm Hooker and Erlangers' observation of the diminished pulse pressure, in the upright posture of the albuminuric, but are unable to find any relation between this lessened pulse pressure and the albuminuria.

Our cases of orthostatic albuminuria presented severe abdominal visceroptosis, and it seemed impor-

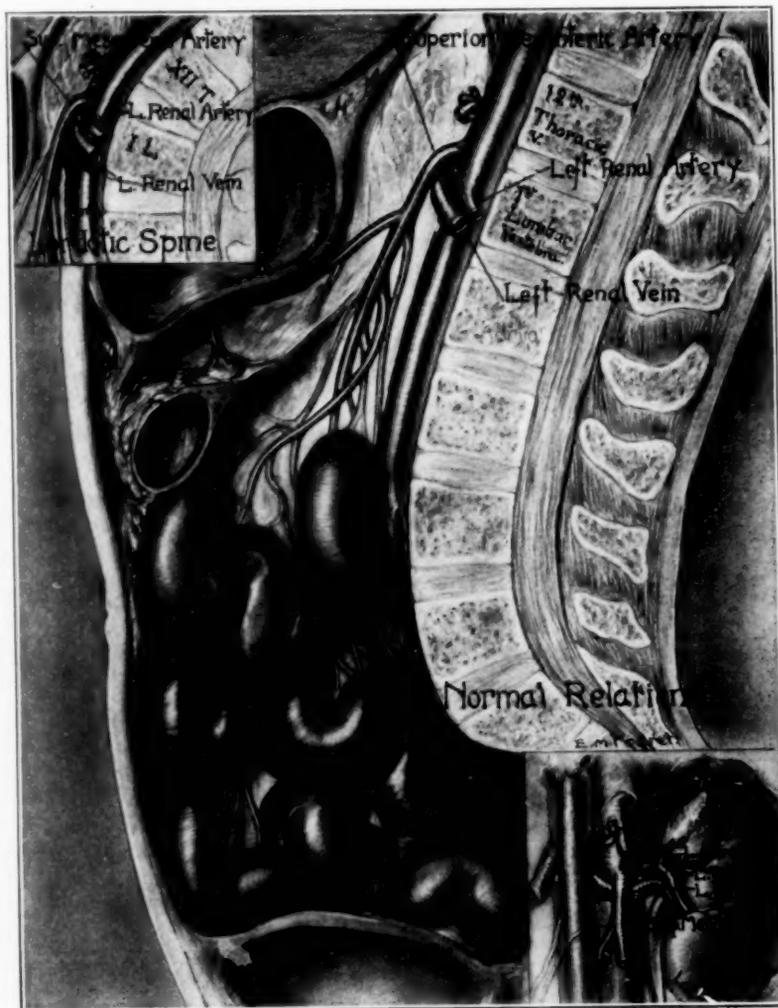
tant to determine whether the albuminuria and the visceroptosis were unrelated signs of a common and underlying developmental defect, or whether the visceroptosis stood in a causal relation to the albuminuria. To that purpose our patients were fitted with a properly constructed abdominal corset, which held the viscera well supported, and which entirely obviated mesocolic or mesenteric tautness or tension. The correction of the ptotic defect by the corset was confirmed roentgenologically.

The patient was placed in the orthostatic posture until the urine showed a very heavy trace of albumin.

Then the supporting corset was applied and the patient maintained in the orthostatic posture. The albumin disappeared in about the same time interval as was required for its disappearance in the horizontal posture. The patients were held as nearly lordotic as the corset permitted, without influencing the result; that is, they were albumin free while the ptosed viscera were supported. This observation was confirmed repeatedly.

In Case 1 positively, and Case 2, also, we believe that the left kidney and the left renal vein are the structures involved, and a study of the anatomic relations, particularly of the left renal vein, yields much enlightening information.

The renal veins are formed at the hilum, by the union of from three to five branches which come from the kidney substance. They are directed medially, and slightly upward, and lie in front of the corresponding artery. On account of the position of the vena cava, to the right of the median line, the left vein is somewhat longer than the right and passes in front of the abdominal aorta, just below the origin of the superior mesenteric artery, to reach its point of entrance into the vena cava. The left renal vein, then, lies in front of the aorta in such a position that either tension on the mesenteric artery from visceral tug or ptosis, or pressure from the aorta projected forward by a lordotic spine, would cause its compression by the arterial pincers formed by the aorta and mesenteric artery. That such a compression actually does occur



Upper left inset, transverse view of left renal vein compressed by impinging vessels. Illustration, with lower right inset, normal transverse and anteroposterior views of relations of left renal vein.

by tension from the mesocolon, we were able to demonstrate on the cadaver, as indicated in the accompanying illustration.

Such an anatomic explanation would fit in well with the clinical phenomena, and account for the rapid onset of the albuminuria whenever the pincers obstruct the blood flow in the left renal vein, and its equally rapid subsidence when the compression is released. It would explain why not all lordotic persons are albuminuric, and why not all visceroptotic persons are albuminuric; for only when the angle formed by aorta and mesenteric artery is sufficiently acute, and the renal vein lies closely enough to be compressed, is there the entire mechanism that will produce a left renal stasis.

The left suprarenal veins empty into the left renal vein, proximal to the point of compression, so that concurrently with renal stasis there must occur left suprarenal stasis, caused by the same factors. Just how, if at all, this suprarenal circulatory disturbance has any bearing on the well recognized blood and pulse pressure variation from normal, which occurs in this condition, constitutes an interesting problem, and merits further investigation.

CONCLUSION

Orthostatic albuminuria is due to renal stasis caused by a compression of the left renal vein, in arterial pincers composed of the aorta and the mesenteric artery. These arterial pincers become operative when the aorta is projected forward by a lordosis or when the mesenteric artery is pulled to tautness by the visceroptotic tug from the mesocolon.

Further study should determine whether either one of the two branches of the arterial pincers, acting independently, can sufficiently compress the vein. That is, we hope to be able to show whether the abdominal visceroptosis alone can produce the albuminuria, whether the lordosis alone can produce it, or whether both are necessary factors in the productive mechanism.

The magnitude of the pulse pressure holds no relation to the albuminuria, nor has it any influence on the elimination of water, urea or chlorids.

Further investigation should throw light on what influence the circulatory disturbance of the left suprarenal gland may have on the general vasomotor instability in this condition.

50 East Seventy-Ninth Street—1329 Madison Avenue.

Plastic Operation on Nose.—O. Ivanishevich reconstructed the nostrils in a young woman by grafting a wedge from the edge of the ear on the thumb. The hand was fastened to the ear until the flap had grown to the thumb. The flap was modeled to use for the tip of the nose, and the hand was then fastened to the face until the flap had grown in place on the nose. By this intermediate-host method the deformity was corrected very successfully. The various steps of the operation are shown with the ultimate outcome in twenty-four illustration in the *Prensa Médica Argentina* 8:73 (July 30) 1921.

ISOLATED DISEASE OF SCAPHOID BONE OF FOOT

ARTHUR S. RISSER, M.D.

BLACKWELL, OKLA.

In 1908, Koehler¹ of Wiesbaden reported three cases of disease of the scaphoid bone of the foot, occurring in children and limited to the scaphoid. Since then only eleven additional cases have been reported,² if my records are complete; so we may conclude that the condition is not very common. The disease is scarcely mentioned in the textbooks of surgery or pathology. The etiology is obscure, though the clinical history, symptoms and course are fairly uniform. The roentgen ray furnishes the only positive means of diagnosis. None of the cases reported have been fatal, and none of the patients have been operated on, so that neither bacteriologic nor pathologic studies have been made. Hence, the roentgen ray furnishes the nearest approach to the study of the pathology of the disease. The roentgen-ray findings are fairly constant and typical, and coincide with the clinical course of the cases recorded.

In view of the rarity of the disease and the differences of opinion as to its etiology and pathology, and because of the fact that most of the meager literature on the subject is foreign, it would seem worth while to report an additional case which came under my personal observation.

REPORT OF CASE

History.—A boy, aged 6, whom I saw in February, 1917, complained of pain in the foot. He developed a limping gait and walked and ran flat footed, as the pain was increased by the effort to rise on the toes and utilize the spring of the arch of the foot. Pain, however, was never severe enough to prevent his getting about in his play. There was great tenderness to direct pressure on the dorsum of the foot, especially over the scaphoid. Marked redness, local heat and swelling were present. Transient, mild fever was present, but this might have been due to a concurrent catarrhal infection to which the boy was subject. The tonsils, while not greatly enlarged, were subject to repeated attacks of inflammation. The tonsillar and cervical glands were slightly swollen. No



Fig. 1.—Diseased scaphoid compared with the normal.

1. Koehler, A.: Ueber eine häufige bisher anscheinend unbekannte Erkrankung einzelner kindlicher Knochen, *Verhandl. d. deutsch. Röntgen-Gesellsch.* 4: 110, 1908, München. *med. Wchnschr.* 55, No. 37.

2. These cases have been reported by:

Behn: Isolierte Erkrankung des Naviculare pedis bei Kindern, *Fortschr. a. d. Geb. d. Röntgenstrahlen* 16: 262.

Dobisch: Zur Aetiologie der Koehlerschen Knochenerkrankung, *München. med. Wchnschr.* 55: 2285.

Fasset, F. J.: Isolated Disease of the Scaphoid, *J. A. M. A.* 62: 1155 (April) 1914.

Haenisch: Ueber eine häufige bisher anscheinend unbekannte Erkrankung einzelner kindlicher Knochen, *München. med. Wchnschr.* 55: 2377.

Hetzler, W. B.: Isolated Disease of the Scaphoid Bone of the Foot (Koehler's Disease), *Am. J. Orthop. Surg.* 15: 214 (March) 1917.

Krause: *Handbuch der Anatomie des Menschen*, 1: 92, 1917.

McClure, C. R.: Isolated Disease of the Scaphoid, *J. A. M. A.* 71: 1360 (Oct. 26) 1918.

Pfahler, G. E.: Isolated Disease of the Scaphoid Bone of the Foot in Children (Koehler's Disease), *Surg., Gynec. & Obst.* 17: 625 (Nov.) 1913.

Preiser: Zur Frage der typischen traumatischen Ernährungsstörungen der kurzen Hand- und Fusswurzelknochen, *Fortschr. a. d. geb. d. Röntgenstrahl* 17: 360.

Schäffer, K.: Die Köhlersche Knochenerkrankung, *München. med. Wchnschr.* 57: 1548, 1910.

Stumme: *Fortschr. a. d. Geb. d. Röntgenstrahl.* 16: 342.

other glands were enlarged. Sometime previously the child had struck his foot on a chair, but it is not known just what part of the foot received the blow.

The father and mother were both well. The maternal grandfather, grandmother, and other relatives on the mother's side had died of tuberculosis. There was no venereal taint. Birth had been normal. The child had been artificially fed. Development had been normal. The boy had had whooping cough, mumps, chickenpox and repeated attacks of "colds," manifested by tonsillitis, pharyngitis, coryza and cough; he



Fig. 2.—Diseased foot: scaphoid narrowed, outline ragged, granular appearance.

had had otitis only once (with whooping cough five years before). At the time of onset of the scaphoid disease he was just recovering from one of these catarrhal attacks, and the question is pertinent: Was the bone disease a sequel of the throat infection? Was it another instance and evidence of the many manifestations of focal infection? However that may be, the cases thus far reported give no uniform or consistent history of trauma as to the possibility of focal infection.



Fig. 3.—Diseased foot, recovery advanced, scaphoid regaining normal size, shape and roentgen-ray appearance.

Clinical Course.—A plaster cast was applied and worn for a few days, when the discomfort of the eruption of an intercurrent attack of measles necessitated its removal. The cast was purposely not reapplied, as it was decided to test the necessity of fixation and support. Within three months the acute symptoms of swelling, pain on weight bearing, tenderness on pressure, and limping had practically disappeared, although it is worthy of note that these symptoms were temporarily increased after the attack of measles. The pain and

tenderness were never severe enough to prevent the child from using the foot in play, though for about three months the limp and the tendency to walk flat footed or on the heel were very marked. The boy's gait resembled that of a child which had had an infantile paralysis affecting one leg.

The roentgen-ray findings in all the cases thus far reported are fairly uniform, and they may be summarized by describing the appearances in my case. The scaphoid shadow as a whole was much smaller in all dimensions than normal, but especially was it flattened anteroposteriorly, perhaps to a half of its normal thickness. Instead of the normal and smooth edged and rounded outline, the margins of the bone shadow were very ragged and irregular. The normal trabeculated appearance of the bone was lost so that the diseased scaphoid contrasted strongly with the other bones of the foot and with the scaphoid of the opposite side. No distinction was possible between cortex and medulla. The roentgenogram revealed a greatly increased but irregular, somewhat granular density of the whole body of the bone and in particular of the ossifying center.

Roentgenograms disclosed a gradual return of the bone to normal, coincident with the improvement in the clinical signs, and in six months it was impossible, roentgenologically, to distinguish between the two scaphoids.

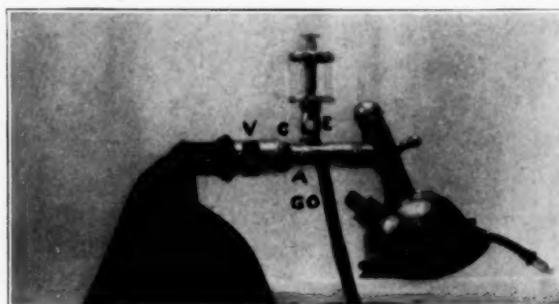
It is with the hope that other cases may be carefully studied and recorded, and that the various obscurities of this disease may be cleared up, that I present this report.

Clinical Notes, Suggestions, and New Instruments

A MODIFICATION OF THE FLAGG ANESTHESIA APPARATUS

RICHMOND DOUGLASS, M.D., NEW YORK

Devices for administering ether are already widely varied in the mechanical details, but the modification here described has proved its worth. As junior intern I had a Flagg machine assigned to me for the routine anesthesia work. It was very satisfactory because of the visible ether-drop feed (*E*), and the fact that the gas-oxygen inlet (*GO*) led directly to the airway (*A*) between the rebreathing bag and the mask, making it a complete unit in which it was possible to use gas



Modification of Flagg anesthesia apparatus.

or oxygen at any time without interfering with the ether administration. The only provision, however, for allowing the patient air during the course of the anesthesia was to empty the bag partly and then refill it by means of the valve over the mask. At best this gave a varying mixture for respiration, and made one more demand on the anesthetist's attention.

A certain amount of rebreathing seems to be desirable, but it is well not to exclude air too much. Luke, in his textbook on anesthesia, says that the more air deprivation the patient is subjected to, the more likely will he be to suffer from after-sickness and headache. The widely used Bennett apparatus provides ample means for allowing fresh air to enter.

Through the courtesy of the operating room nurse, I secured a "chimney" or collar (C) from an old Bennett, and the valve (V) usually used on the gas bag of that machine. The collar (C) was soldered on the outer end of the airway (A) of the Fagg apparatus and the rebreathing bag attached to the valve (V), which is built to slip on the collar. The same thing could be accomplished by soldering the valve directly to the Fagg apparatus.

The valve makes it possible to leave an open slit of the desired width for the entrance of air. It is left closed until the induction stage is passed; then it is opened and left practically untouched during the operation. It is only necessary under these conditions to regulate from time to time the rate of ether dropping to carry on a very smooth and uniform anesthesia and one in which the patient is well oxygenated.

I used this modified apparatus in fifty-seven cases, and the present junior intern has found it very satisfactory in 150 cases during the last six months. He realized its superiority even more when it was necessary to change to the regular model for a time. Any one willing to take the trouble to make this change will feel well repaid.

Dr. P. J. Fagg writes that the Tiemann Company, which supplies the inhaler, will be glad to provide an air section at a small additional expense.

Roosevelt Hospital.

CONGENITAL ATRESIA OF THE ESOPHAGUS

H. G. WILLARD, M.D., TACOMA, WASH.

A baby girl, born, Oct. 17, 1921, weighing 6 pounds, 12 ounces (3 kg.), was apparently normal and well formed. She was unable to nurse, and when given fluids would choke and regurgitate and become cyanotic. When fluids were given



Fig. 1.—Congenital atresia of the esophagus: A, probe passing through upper esophageal fistula into trachea; B, probe passing from trachea back into lower esophageal pouch.

very slowly, she succeeded in retaining a small amount. Some castor oil which was given passed through with several movements of meconium. When an attempt was made to pass a catheter into the stomach, an obstruction was met in the upper part of the esophagus. The baby died of asphyxia at the age of 54 hours. Necropsy, performed by Dr. A. E. Broman, revealed that the upper end of the esophagus ended

blindly at a point 4.5 cm. (1 1/4 inches) from the epiglottis. It was continued as a fibrous cord for a distance of 0.75 cm. (3/16 inch) and then was continued as a normal esophagus. At a point 0.75 cm. above the occlusion of the esophagus there was a fistula 1 mm. (1/25 inch) in diameter which opened into the trachea. There was a second fistula 1 mm. in diameter

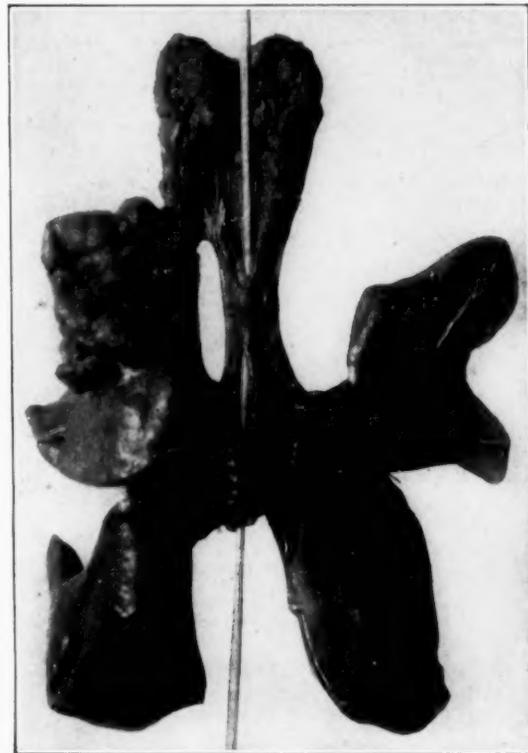


Fig. 2.—Congenital atresia of esophagus: probes passing through two esophageal fistulas into trachea.

between the trachea and the upper end of the portion below the atresia. The distance between these two fistulas was 1.5 cm. (1 9/32 inch). The lungs contained one-half volume of air. There were no gross abnormalities noted in any organ of the body except those mentioned. The stomach contained a small amount of fluids which had the appearance of diluted milk and mucus. The anatomic diagnosis was: congenital atresia of the upper third of the esophagus; two fistulous communications between the esophagus and the trachea; aspiration pneumonitis.

It is interesting to note that in this case part of the fluids given to the baby found their way into the stomach by way of the trachea and the small fistulous tract leading from the trachea into the lower part of the esophagus. Most of it was evidently aspirated into the lungs. Hirsch¹ states that up to July 1, 1920, 146 verified cases of congenital atresia of the esophagus have been reported in infants.

Puget Sound Bank Building.

1. Hirsch, I. S.: Congenital Atresia of the Esophagus, J. A. M. A. 76: 1491 (May 28, 1921).

The Work of the Scientist.—Take from the air every aeroplane; from the roads every automobile; from the country every train; from the cities every electric light; from ships every wireless apparatus; from oceans all cables; from the land all wires; from shops all motors; from office buildings every elevator, telephone and typewriter; let epidemics spread at will; let major surgery be impossible—all this and vastly more, the bondage of ignorance, where knowledge now makes us free, would be the terrible catastrophe if the tide of time should but ebb to the childhood days of men still living! . . . Therefore, whoever desires progress and prosperity, whoever would advance humanity to a higher plane of civilization, must further the work of the scientist in every way he possibly can.—William J. Humphries.

IMPROVED NEEDLE AND METHOD FOR CITRATED
BLOOD TRANSFUSIONSDARWIN B. POND, M.D., CHICAGO
Attending Surgeon, Ravenswood Hospital

In performing transfusions by the Lewisohn method and using a relatively large needle, gage 11, it was frequently observed that, after securing about 300 c.c. of blood, clotting

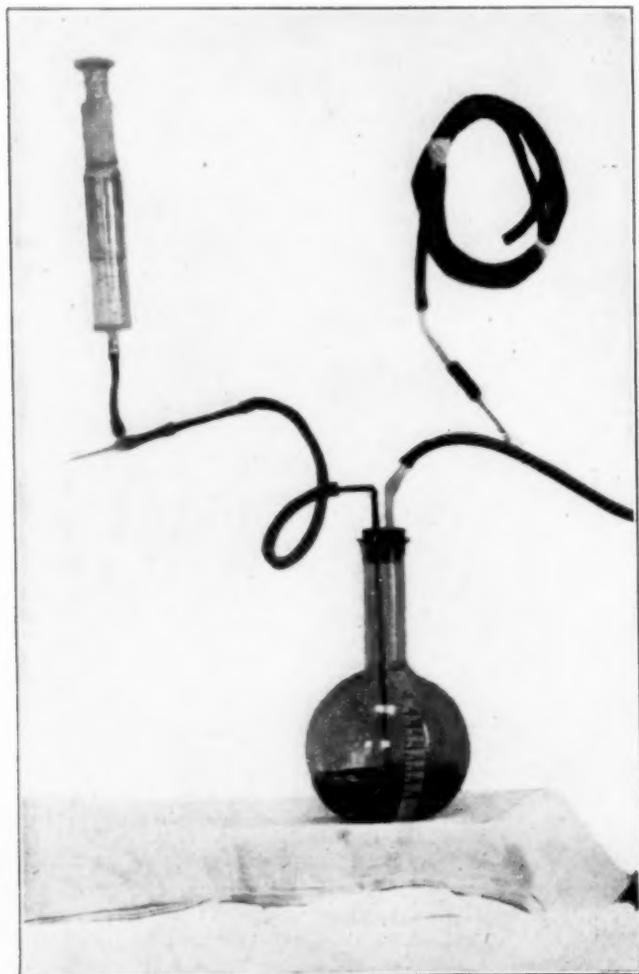


Fig. 1.—Improved apparatus for blood transfusion.

occurred around the outlet of the needle, especially with a donor whose coagulation time was rapid. To overcome this difficulty, which interfered with the flow, and to preclude the possibility of subsequent embolus resulting from a detached portion of this clot, it seemed desirable to secure a mixture of the citrate solution with the blood before exit from the needle.



Fig. 2.—Improved needle for blood transfusion.

With this idea in mind, I devised a needle, as shown herewith, which has proved satisfactory during the last two years. The apparatus consists of the aspirating needle, *A*, gage 13, with a rather blunt point, into the shoulder of which is soldered at right angles an ordinary blood needle, *B*, gage 17, its lumen entering that of the larger needle where the thread is usually encountered. The latter has been reamed out, thus

enlarging the mixing chamber, *C*, and presenting a smooth surface to the current of blood. To the small needle, *B*, is attached a short piece of flexible rubber tubing connected with a 50 c.c. glass syringe, containing 2 per cent. sodium citrate solution, which by pressure on the syringe piston is caused to mix with the blood before it leaves the needle, and during its passage to the graduated Florence flask. Here further mixing is secured by frequent oscillation of the flask. Ten cubic centimeters of citrate solution is mixed with every hundred cubic centimeters of blood. The flask is closed with a rubber cork through which two glass tubes project. The inlet is connected to the needle with rubber tubing.

When the desired amount of blood is secured, a longer piece of tubing is slipped over the shorter glass tube, the flask inverted, and its contents administered to the recipient through a medium size needle. After inversion of the flask, the longer glass tube acts as an air inlet.

ADVANTAGES OF THE METHOD

The advantages of this method are:

1. There is no clotting of blood in the needle or elsewhere.
2. Tendency to mutilation of blood cells by the stirring rod against the sides of the graduate is avoided.
3. Use of a closed container avoids possible contamination of citrated blood with lint or other foreign material which cannot be seen in this opaque fluid.

4363 Lincoln Avenue.

A NEW EAR BASIN

WILLIAM W. GOLDNAMER, M.D., CHICAGO

The ear basin here illustrated has the following advantages: The patient cannot readily tip it in either direction, thereby spilling the solution.



Ear basin.

The operator can see exactly what he is doing, and can assist the patient if necessary.

It is a size (holding about a pint, or 0.5 liter) that is not likely to overflow, and the foreign matter may be noted when expelled.

It may be readily cleaned and polished.

25 East Washington Street.

BIMANUAL MASSAGE IN SEMINAL VESICULITIS

R. L. REYNOLDS, M.D., OAK PARK, ILL.

Since Eugene Fuller first began making rectal examinations as a routine in patients presenting genito-urinary symptoms, inflammation of the seminal vesicles has gained increasing recognition as the cause of morbidity in the urinary and sexual functions, as well as functions of the human body distant from these organs. Many symptoms formerly loosely ascribed to inflammation of the prostate are in reality often primarily or even wholly due to infections of the seminal vesicles. One is impressed with the multiplicity of measures and methods which have been devised for dealing with this condition. Also, one cannot fail to appreciate the lack of confidence of the one in the method of the other and the fact that a standardized technic universally acceptable is still to be evolved.

Belfield has pointed out that, in stripping the seminal vesicles as usually done, the finger reaches only the lower half or two thirds of the vesicles. From a study of their anatomy and experience in endeavoring to evacuate them artificially, one realizes the truth of this statement. Often less is reached, and occasionally it is not possible to reach any part of the vesicles by a single unaided finger in the rectum. This difficulty in thoroughly evacuating them is undoubtedly the big factor in their stubborn chronicity of the inflammation.

Chetwood¹ says: "It is possible to palpate the seminal vesicles through the rectum, but not to reach their entire length." He has devised a hard rubber masseur, the use of which is open to the serious objection that its pressure is not accurately guided by the sense of touch. He mentions the use of counter pressure to the finger in the rectum, but uses the masseur to strip the upper poles of the vesicles.²

My purpose here is to point out an improved method of bimanual stripping of the seminal vesicles. Guiteras³ describes a method of bimanual palpation of the seminal vesicles in which the left hand pushes the vesicle down against the examining finger. This enables vesicles to be felt and outlined which are not otherwise palpable, or not completely so. In massage of the vesicles, he writes: "If the soft parts in front of the rectum are too yielding, by placing the finger tips of the other hand above the pubic spine in the groin and about parallel with the inguinal canal, counter pressure may be made by which the parts are steadied enough to assist in the manipulation." This is a distinct improvement over massage with a single unopposed finger in the rectum, and is excellent as far as it goes; but it does not go far enough.

Completely to identify and outline the vesicle, it is necessary to change the position of the abdominal hand so that its fingers appose the rectal finger as it moves laterally and upward. The vesicle is identified throughout its entire extent by its peculiar feel as it slips back and forth between the apposing fingers. When this is accomplished, compression and massage of the vesicle is begun between the rectal finger and the abdominal fingers. Any hard nodular areas, which may be diverticula from the main channel of the vesicle or infiltrated areas, are massaged and compressed by a lateral rolling motion, and the contents are mobilized and perivesicular edema and infiltration improved. This compression is continued as the apposing fingers follow the vesicle from its upper pole toward its apex, where it is compressed between the abdominal fingers, the pubis, the prostate and the rectal finger.

It is not possible to strip all seminal vesicles bimanually with the same ease or the same completeness. But it is physically possible to strip any seminal vesicle which can be palpated bimanually. In any case, more can be accomplished by the bimanual method. Thick abdominal walls and heavy fascial pads over the ischial tuberosities make it difficult.

With practice and persistence in development of the technic, the number of patients not possible to massage satisfactorily at first can be markedly reduced. With patience they can be taught to relax the abdominal muscles and overcome the automatic resistance which these muscles make to the pressure of the abdominal fingers.

If the patient stands with his heels spread slightly, his toes turned in slightly, knees straight, his body bent at the hips at an angle of about 45 to 80 degrees from the perpendicular, steadying himself by one hand resting on a chair, this relaxation is aided. When the left vesicle is being massaged, he steadies himself with his right hand, and vice versa.

If one has any doubt of the superiority of the bimanual maneuver, one has only to note how much more vesicular contents can be evacuated by it.

A physical examination of a genito-urinary patient without a thorough recto-abdominal bimanual palpation is just as incomplete as that of a gynecologic case would be without a bimanual examination. It is only a step from bimanual palpation of the internal genitals in the male to treatment of them by bimanual maneuvers.

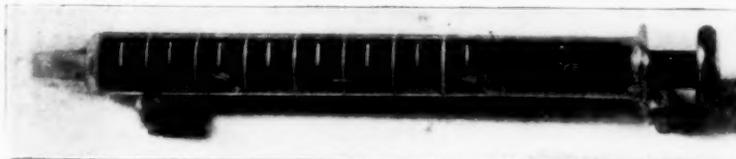
Oak Park Hospital.

SYRINGE FOR SCHICK TESTING

C. C. YOUNG, PH.D., AND MINNA CROOKS, R.N., LANSING, MICH.

In group Schick testing, speed and accuracy of dosage are essential. This syringe aids materially in giving an exact amount, and increases the rapidity of administering diluted toxin for the Schick test.

An ordinary Luer 1.5 c.c. tuberculin syringe blank is graduated to deliver 0.2 c.c. between marks. Each 0.2 c.c. gradua-



Syringe for Schick testing.

tion mark completely encircles the barrel on the syringe. Thus, no matter in what position the syringe comes to rest in the operator's hand after inserting the needle intradermally, the graduation for dosage is apparent.

This device will increase the number of injections per hour at least 20 per cent.

METHOD FOR INSERTION OF FRACTIONAL GASTRIC TUBE

JULIUS J. HERTZ, M.D., NEW YORK

It is sometimes impossible to cause a patient to swallow either the Einhorn or the Rehfuß tube. In such persons, the procedure here described will invariably succeed: The end of an Ewald gastric tube is cut off or a 36 French colon tube with the opening at the end is used, and the Rehfuß tube is inserted in the tube so that the "olive" projects and the rubber tubing is within the entire length of the Ewald pipe. The Ewald tube is then forcibly inserted, thus carrying with it the Rehfuß tube, after which the Ewald tube is withdrawn, leaving the smaller tube in situ.

64-66 East Eighty-Sixth Street.

The Tuberculosis Decline in New York.—G. J. Drolet, statistician of the New York Tuberculosis Association, speaking before the annual meeting of that organization, February 8, stated that there had been a marked decline in the incidence of and mortality from tuberculosis in New York City. This, he said, might be partly attributed to prohibition, which had reduced the amount of misery, and increased the amount of money available for food, clothing and shelter. Another possible factor was the coming into the population of a large group of Jewish stock, noted for their immunity to all diseases that commonly characterize congested city life. The housing congestion during the war failed to cause an increase principally because the buildings in which the congestion was the greatest were modern buildings, which did not have dark rooms. Pasteurization of milk, according to Mr. Drolet, has been a factor in reducing the tuberculosis death rate.

1. Chetwood: *The Practice of Urology*, p. 330.
2. Chetwood: *The Practice of Urology*, p. 337.
3. Guiteras: *Textbook of Urology* 1: 315.

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SATURDAY, MARCH 4, 1922

OBESITY AND DIABETES

In a paper published in *THE JOURNAL* last year by Joslin,¹ which has attracted widespread attention because of the compelling evidence it presents regarding the close association of obesity and diabetes, a striking account of the ravages of the latter disease among a small group of people is forcefully portrayed. The story refers to the untimely death, from diabetes, of six out of seven persons who had moved in succession into three adjoining houses. No one spoke of an epidemic, says Joslin. "Contrast the activities of the local and state boards of health," he adds, "if these deaths had occurred from scarlet fever, typhoid fever or tuberculosis. Consider the measures that would have been adopted to discover the source of the outbreak and to prevent a recurrence. Because the disease was diabetes and because the deaths occurred over a considerable interval of time, the fatalities passed unnoticed."

Here, then, is a challenge to the medical profession of a country in which there are probably more than half a million diabetics. If diabetes is a "penalty of obesity," it becomes a duty to make the diagnosis early when the disease is still susceptible to modification by diet. The serious portent of occasional transitory glycosurias in persons apparently healthy is already beginning to be realized by clinicians. Since the use of carbohydrate tolerance tests has come into vogue, the prospect of thereby securing information useful in a prophylactic way looms up. At the Mayo Clinic, Beeler and Fitz² have recently determined the glucose tolerance of a group of stout persons exhibiting sugar-free urines on routine examination. Part of the plan consisted in ascertaining the "blood sugar curve" after the ingestion of standard doses of the carbohydrate, with special reference to the existence of a "prediabetic" stage. The majority of the patients observed showed no fasting hyperglycemia and had a nearly normal blood sugar curve after the ingestion of 100 gm.

1. Joslin, E. P.: *The Prevention of Diabetes Mellitus*, J. A. M. A. **76**: 79 (Jan. 8) 1921.

2. Beeler, Carl, and Fitz, Reginald: *Observations on Glycemia, Glycuresis, and Water Excretion in Obesity*, Arch. Int. Med. **29**: 804 (Dec.) 1921.

of glucose. A few of the obese, however, afforded a curve of glycemia resembling that of mild diabetes. Although the deviations from the normal were marked in only a few cases, the question of the prognostic value of such tests may be worthy of further consideration. The Rochester clinicians, in fact, regard it as probable that more striking results would be obtainable if the dosage of glucose were made on the basis of body weight and if the sugar solution were administered intravenously according to the method of Woodyatt, Sansum and Wilder.³

Incidentally, these studies, undertaken primarily to ascertain the extent of tolerance for carbohydrates in the obese, have disclosed some unexpected reactions in certain of these persons. Instead of the expected hyperglycemia after ingestion of glucose, they may show relatively normal values. Some even excrete less than the average amounts of glucose usually eliminated after consuming 100 gm. of the pure sugar in tolerance tests. These patients, we are told, tend to excrete small volumes of urine and small quantities of sugar. They appear not to retain sugar because of an impermeable kidney, but rather to have some disturbance in sugar and water metabolism that may be related to an endocrinopathy. It seems possible, Beeler and Fitz allege, that these patients burn or store sugar with unusual rapidity, a reaction which may have a sparing influence on fat and protein metabolism and may be a factor in the development of adiposity. This conclusion cannot be accepted, however, without further scientific evidence.

PRECISION IN ANTITUBERCULOSIS MEASURES

What constitutes resistance to tuberculosis is still a shadowy concept in the minds of most phthisiologists, although almost all are willing to admit that the flare up of frank disease is the result of a lowering of such resistance. Krause⁴ calls for more precision in its discussion. To say that a patient's latent childhood tuberculosis flares up into active disease because of malnutrition, an unhygienic mode of life in crowded quarters, or intercurrent disease, is merely to restate the problem, with a more or less soporific effect on the mind of the auditor. Yet, "if anything is certain it is that the curve of incidence of morbid tuberculosis will run closely parallel with comparative deprivation of the means of subsistence and all the overstrain, exposure, faulty living and misery which accompany inability to live comfortably." Why?

Krause interprets resistance as a manifestation of allergy, admitting, presumably, that any explanation on this ground suffers in preciseness just so far as our notions of allergy are inexact and our knowledge of sensitization is incomplete. We are to understand that

3. Woodyatt, R. T.; Sansum, W. D., and Wilder, R. M.: *Prolonged and Accurately Timed Intravenous Injections of Sugar*, J. A. M. A. **65**: 2067 (Dec. 11) 1915.

4. Krause, A. K.: *Am. Rev. Tuberc.* **5**: 915 (Jan.) 1922.

the normal man of our communities is sensitized to the specific proteins of the tubercle bacillus as a result of actual infection with it, that an acute response is elicited every time tubercle bacilli come into contact with normal tissues, and that stormy illness, far from being an evidence of lowered resistance, is only one of the manifestations of immunity. The same author has likened this allergic response to a two-edged sword, rapid and effective in action, capable of destroying invading parasites, but liberating at the same time into the system a quantity of poisonous material that may be sufficient to kill the animal.

If we grant that most of us harbor tuberculous infections, and that the passage of bacilli from the seat of infection calls forth a specific response operating toward the destruction of the organisms—both of which theses rest on firm foundations—we are still confronted with a problem calling for a two stage answer. By what method are tubercle bacilli destroyed in the course of this response, and under what conditions is the specific response of the sensitized individual in abeyance? With the answer to the second of these, we make decided progress toward an explanation of lowered resistance; but only when the first is answered do we know what the nature of that resistance is. We do know that allergy is depressed in the course of the acute exanthems, other fevers and in pregnancy. The tuberculin skin test, previously positive, may become negative, and coincidentally with this depression of allergy there is often an extension of tuberculous disease. Is it a fair prediction, as Krause maintains, "that further investigation will show allergy to be similarly modified by fatigue, malnutrition, exposure to undue heat and cold, in fact by anything which depresses bodily function"? If this prediction is fulfilled, then it will be a fact that antituberculosis measures, aimed at present to improve living conditions and so directed long before the discovery of the tubercle bacillus, rest on the basis of scientific immunology. We shall know why our death rate from tuberculosis continues to drop, while that of the starving empires of central Europe is rising—because we are maintaining a more general allergy. But that does not mean that we shall understand allergy.

It is interesting that, in the same journal,⁵ McCann makes a distinct contribution to precision in the dietary treatment of tuberculosis. One is reminded of the scientific procedure introduced by Woodyatt⁶ for the calculation of ketogenic and antiketogenic factors in the diet of a diabetic. Surely, it is a late day to be advising a "run-down" consumptive to "build up" by taking "plenty of nourishing food." McCann has calculated from basal metabolism determinations the probable basal energy requirement of patients with active tuberculosis, and estimated the caloric increment which must be supplied to make good the loss in fever

and coughing. Furthermore, food intake is not to be regulated entirely quantitatively by the total calory requirement, nor yet qualitatively on the basis of synthesis of body fat and protein. Different kinds of food, through their specific dynamic action and carbon dioxid production by oxidation, require varying amounts of work by the tissues, and especially by the lungs, in their disposal; hence an excessive supply of food may compel the lungs to do an undesirable amount of work at a time when this may be disadvantageous to the active pulmonary lesions. Such factors are of more than obvious significance in pulmonary cases with hemorrhage. One wonders why such exact work has not been done previously on a large scale.

DIABETES INSIPIDUS FOLLOWING BRAIN LESIONS

The form of chronic polyuria commonly designated by clinicians as diabetes insipidus still remains ill defined with respect to its causation. In the discussion of the exact physiologic mechanism involved when the large volumes of urine of low concentration characteristic of the disease are eliminated, there have been many hints of an involvement of the pituitary gland. It is a fact that several investigators have reported the appearance of persistent polyuria in animals subjected to operative procedures that involved in some measure the region of the central nervous system including or adjacent to the pituitary gland. As it has been found of late that artificial extracts of the latter administered subcutaneously may reduce the output of urine in diabetes insipidus, the view that the malady is due to a deficiency of secretion of the posterior pituitary lobe has been strengthened.

These conclusions have, nevertheless, not gone unchallenged. Traumatism of the region wherein the pituitary lies is extremely likely to involve neighboring parts of the central nervous system. Hence has arisen the dispute in many cases as to whether the symptoms observed were due essentially to lesions of the pituitary gland or of the immediately adjacent base of the brain. It is the merit of Bailey and Bremer,¹ of the Laboratory of Surgical Research in the Harvard Medical School, to have employed a technic whereby the base of the brain just over the pituitary region could be attacked without damage to the latter. Other investigators² have already asserted that it is possible to produce transitory polyuria in dogs by puncturing the hypothalamus independently of the pituitary. The Boston surgeons, however, following the lateral route of Paulesco and Cushing, which gives perfect exposure of the region and permits avoidance of the hypophysis

1. Bailey, Percival, and Bremer, Frédéric: *Experimental Diabetes Insipidus*, *Arch. Int. Med.* **28**: 773 (Dec.) 1921.

2. Camus, J., and Roussy, G.: *Compt. rend. Soc. de biol.* **75**: 483, 1913; *Endocrinology* **4**: 507 (Oct.-Dec.) 1920; *Compt. rend. soc. de Biol.* **83**: 1578, 1920. Houssay, B. A.: *Endocrinology* **2**: 94 (April-June) 1918; *Compt. rend Soc. de biol.* **81**: 381, 1918.

5. McCann, W. S.: *Am. Rev. Tuberc.* **5**: 870 (Jan.) 1922.

6. Woodyatt, R. T.: *Objects and Methods of Diet Adjustment in Diabetes*, *Arch. Int. Med.* **28**: 125 (Aug.) 1921.

with certainty, have shown that a lesion, even extremely minute, of the para-infundibular region of the hypothalamus provokes with certitude a polyuria. They maintain, furthermore, that the permanent polyuria induced by more extensive lesions in the same region has all the characteristics of diabetes insipidus in man, e. g., possibility of concentration when intake of fluids is restricted, when pituitary extract is injected subcutaneously or in the presence of fever; excessive polyuric action on the administration of chlorids, and absence of theobromin effect.

That the primary cause of diabetes insipidus does not reside in the kidney itself is evidenced, in the few human cases already examined, by the absence of demonstrable histologic renal defects and the fact that definite association of this type of polyuria with other renal diseases is not known to occur. The experimental diabetes insipidus following lesions of the postinfundibular region of the hypothalamus persists after denervation of the kidney and cannot, therefore, be attributed to a disturbance of its nervous or vasomotor regulation.

The occasionally quoted assumption of a hormone, particularly a pituitary product secreted to regulate kidney function, has already lost any popularity which it may once have claimed. Bailey and Bremer assert that the known facts point to an extrarenal factor as the essence of diabetes insipidus and, they add, it is certainly not a coincidence that this condition is accompanied in both clinical and experimental cases by other metabolic disturbances. There are hints that experimental trauma of the hypothalamus may cause, in addition to permanent polyuria, adiposogenital dystrophy, cachexia and even rapid death, depending on the size and site of the lesion. Perhaps the little studied region concerned deserves more consideration than it has ordinarily received. At any rate, Bailey and Bremer venture the belief that the time is not far distant when the neuropathologist will no more think of omitting to examine the hypothalamus than he would the motor cortex.

ANOTHER REMONSTRANCE AGAINST INHALATIONS OF MERCURY

During the last few years the attention of the medical profession has been directed by clever propagandists to the treatment of syphilis by procedures which involve the volatilization of mercury-containing mixtures by heat and the inhalation of the resulting volatile products. There is nothing whatever essentially novel in the principles concerned. Inhalations, as well as fumigations of mercury, have been tested at various times since early in the history of syphilis in Europe. In view of the relative simplicity of technic and consequent ease of treatment by inhalation, in comparison with the careful procedure and skilful manipulation demanded by the use of arsphenamin and similar com-

pounds currently popular in the therapy of syphilis, it can be understood why physicians are often inclined to look with favor on the path of least mental and instrumental resistance in their management of syphilitic patients.

There can be no doubt regarding the possibility of bringing about absorption of mercury introduced into the body in the form of its vapors. Numerous records of actual poisoning through inadvertent exposure to atmospheres in which mercury was present attest the potency of the vaporized element. Indeed, it has even been asserted that the entire effect of mercury inunctions is attributable to inhalation of mercurial vapor that is volatilized from the skin. A recent writer has reminded us that if inhalations represented the only method of administering mercury they could doubtless be used. The progress of therapy has, however, furnished other procedures which have surpassed the antiquated inhalation technic in various ways. Accordingly, when the medical profession is urged through the medium of cleverly worded advertisements or the recommendations of enthusiastic salesmen to employ what amounts to a readoption of a type of treatment which has lost both its novelty and its popularity, it behooves the critical physician to demand that the reason be given.

It requires little argument to show that, in general, administration of mercury by volatilization must result in highly uncertain dosage. The technic operates disadvantageously in at least two ways: either too little of the desired drug enters the system, or local overdosage leads to pulmonary irritation. Injury to the lungs in this way has repeatedly been recorded and has given evidence of an uncertainty and a danger not equally likely when mercury is given by oral means. Furthermore, the inhalation procedure often resolves itself into administration of the drug by way of the alimentary tract, because a considerable part of the mercurial vapor may be condensed on the mucous membranes of the mouth and pharynx and gradually swallowed with the saliva. It has recently been asserted¹ that the proportion which thus goes into the digestive tract doubtless varies with conditions; but it must be considerable, and may well be the major part.

The Council on Pharmacy and Chemistry of the American Medical Association has refused to endorse alleged novel antisyphilitic remedies which depend essentially on the administration of mercury by inhalation.² In this decision it is sustained by the interesting and timely reinvestigation of the inhalation treatment of syphilis by Cole, Gericke and Sollmann of Western Reserve University. They have patiently attempted to give mercurial inhalations a fair trial under conditions selected to minimize the inaccuracies of dosage and to

1. Cole, H. N.; Gericke, A. J., and Sollmann, Torald: The Treatment of Syphilis by Mercury Inhalations, *Arch. Dermat. & Syph.* 5: 18 (Jan.) 1922.

2. Spiroicide Not Admitted to N. N. R., *J. A. M. A.* 76: 259 (Jan. 22) 1921.

offer the least irritant conditions. The details are not of immediate interest, because the outcome was adverse to the procedure. An improved technic devised to insure the complete inhalation of definite doses of mercury or calomel, equivalent to those used in intramuscular injection, was applied to a series of patients with active syphilis, but without any therapeutic or other systemic response. Larger doses appeared unjustifiable. Calomel produced objectional local irritation.

The conclusions of the Cleveland investigators deserve widespread notice. The assumption, they remark, that mercury would be more promptly absorbed by the lungs was based on physical misconceptions. In fact, the mercury is condensed on the mucous membranes of the mouth, pharynx and respiratory tract. That in the mouth and pharynx is, for the most part, swallowed. The absorption then takes place by the gradual conversion of the mercury into soluble compounds, just as it does with the ordinary administration of "gray powder." In other words, as Cole, Gericke and Sollmann remonstrate, the administration of mercury compounds by inhalation has no advantage over oral administration; on the contrary, "it has the serious disadvantage of indefinite dosage, and the consequent difficulty of steering between inefficiency and danger, and of special danger of respiratory irritation."

ROLE OF THE SKIN IN LEAD POISONING

In the routine of life, the unprotected parts of the body become exposed to a variety of gaseous, liquid or solid substances that may act as a menace to its welfare. If toxic products thus find their way into the respiratory or alimentary tracts they may be expected to do harm whenever the dosage reaches a danger mark; for the membranes lining these parts of the organism have a structure and function favorable to absorption. The possibility of absorption through the sound skin is far more debatable. Experience shows that despite the deleterious agents with which the skin inevitably comes into contact on almost innumerable occasions, demonstrable harm rarely results. It is usually regarded as established that the uninjured skin is impermeable for watery solutions of salts or other substances. There is some evidence, on the other hand, that a certain amount of absorption of materials dissolved in fatty vehicles can take place, even though the value of inunctions as methods for the therapeutic introduction of drugs into the body has doubtless been greatly overestimated.

One might suppose that the problem of absorption by the skin could be easily and definitely solved. Most foreign substances that gain entrance to the circulation are transported to the excretory organs and there eliminated. Thus, they appear sooner or later in the urine and excrement as well as being deposited occasionally in the tissues. However, the sources of error

are not inconsiderable. There is frequently the possibility that some of a foreign substance applied to the skin may find its way unintentionally into the mouth or respiratory tract. Absorption by cutaneous channels may then be wrongly concluded to have occurred. There is little doubt that, when mercurial inunctions are applied to the skin, sufficient of the heavy metal may find its way into the body through volatilization and entrance by oral paths to simulate absorption through the skin.

With such criticisms at hand, the possibility of cutaneous absorption of lead compounds has been reinvestigated in Lehmann's laboratory at Würzburg by Süßmann.¹ The problem is particularly important because of the industrial importance of lead and the numerous opportunities for poisoning. For example, Hayhurst² made a thorough examination of 100 able bodied painters, and found fifty-nine of them with evidence of chronic plumbism. There are many industries in which the hazards are greater than for painters; the latter have been referred to here because of the greater possibilities of intoxication through cutaneous channels in the course of their work. Süßmann conducted his tests by applying lead salts in oily vehicles to the skin so as to exclude absolutely all chance of introduction of the poison by the oral or respiratory paths. From the data thus secured, he concluded that the maximum cutaneous absorption under favorable conditions of application of lead-containing products is from 0.1 to 0.2 mg. of the metal per square decimeter (three-eighths inch) of surface. Quantities of this magnitude are not large enough to produce lead poisoning in man, even on the assumption that the more favorable possibilities for absorption intentionally selected in the experiments would be reproduced under vocational conditions in industrial environments. It has been asserted that persons have become subjects of plumbism through using cosmetics and hair dyes that contained lead.³ It can now be said that, in all probability, the main channels of the entrance of lead into the body are the alimentary canal and the lungs rather than the skin. This information, corroborated by tests under carefully controlled conditions of experiment, points the way to proper preventive measures. Alice Hamilton⁴ stated not long ago that all the lead industries of the United States need regulation, and that we can hardly hope to lower our high morbidity rate until measures that have been adopted with signal success in other countries are adopted here. Intelligent prophylaxis is the foremost requirement.

1. Süßmann, P. O.: Studien über die Resorption von Blei und Quecksilber bzw. deren Salzen durch die unverletzte Haut des Warmblütlers, *Arch. f. Hyg.* **90**: 175, 1921.

2. Hayhurst, E. R.: *Bull.* 120, U. S. Bureau of Labor Statistics.

3. Oliver, T.: Lead Poisoning, in Kober and Hanson's *Diseases of Occupation and Vocational Hygiene*, Philadelphia, P. Blakiston's Son & Co., 1916, p. 75.

4. Hamilton, Alice: Lead Poisoning in the United States, in Kober and Hanson's *Diseases of Occupation and Vocational Hygiene*, Philadelphia, 1916, p. 117.

Current Comment

A RECOGNITION OF AMERICAN LEADERSHIP IN SCIENTIFIC MEDICINE

In a recent issue, the *Münchener medizinische Wochenschrift* calls attention to the movement in Germany for making the study of English compulsory in German schools. Until now French has been the compulsory foreign language. The editor says that scientific research in the United States has made great advances, thanks to the wealth of the country, and that American literature is on the point of taking the lead in medicine. "The young medical man planning to settle in other countries," he says, "had better be trained in English, which is the predominant language on four continents, rather than in French, as German medical men may be long debarred from settling in French speaking countries." It is gratifying to have this German recognition of America's leadership in scientific research; it is so different.

BUFFALO PHYSICIANS PROTEST PAUPERIZATION OF PUBLIC

The Physicians' Protective Association of Buffalo, made up of 450 of the 857 physicians in that city, is carrying on an energetic fight against the pauperization of the public through free medical services in local hospitals. In a statement adopted at a meeting held January 31, addressed to the mayor and the city council, definite objection was made to the increasing tendency of "an amazingly large proportion of the population" to receive some form of relief or aid and to become to some degree dependents and paupers. The resolution says: "We believe that the time has arrived for an accounting, and that widespread and unnecessary pauperization in the form of medical aid should cease. Abuses are tolerated under the mask of public health, and should be ruthlessly exposed. There is no greater menace than the creation of a vast, willingly dependent class, and it concerns the public more than the medical profession. We are tired of the burden forced upon our profession, and weary of interference and attempted dictation of a class of salaried workers whose livelihood depends so largely on the inflation of the number in the army of fraudulent dependents." The thorough investigation of the cost of care of the sick poor and indigent was urged. In the discussion preceding the adoption of the resolution, it was claimed that, during the first three months of 1921, 7,000 patients were treated in the health centers and dispensaries of Buffalo, as compared with 100 in the same period in 1916, that the health center was merely a collecting agency for the city hospital, and that there was a concerted movement to secure as many patients as possible so that a larger appropriation from the city could be obtained. The result of the agitation was that the mayor instituted an investigation and, according to the *Buffalo Express*, "more than a score of witnesses testified that they were able to pay, but that they had received free treatment for themselves or members of their families." The fight apparently centers around

the proposed plan of consolidating all the hospitals and charity bureaus in Buffalo in a single municipal hospital. In addition to the objection of the medical profession, eight local hospitals have also made a public protest against the proposed plan.

THE EXHAUSTION PRODUCED BY EXTREME EMOTION

That the emotions play upon our physiologic reaction is a thesis that scarcely needs to be defended. The digestive secretions, for example, are influenced by psychic states in striking ways to which the Russian physiologist Pawlow has forcefully directed attention. The idea of food may become a stimulus for the flow of saliva or even gastric juice, whereas such emotional states as anger, fear and sorrow may succeed in inhibiting the normal secretion. Strong emotions are attended by more or less well defined changes in the circulation which, in turn, cannot remain without some influence on the tissues reached by the altered blood supply. It is by no means easy, however, to define the part the emotions per se, and exertion that accompanies them, respectively play in producing the consequent exhaustion. Recently Crile¹ has summarized the results of his extended experiments in this field. Like some of his predecessors, he has observed profound changes produced by fear in the cells of the brain; they are most marked in the cerebellum and cerebrum, though the medulla and even the spinal cord may show the untoward effects. Histologically, the brain cells may show increased activity manifested by hyperchromatism followed by a progressive chromatolysis if the activation is continued. The Purkinje cells in particular are severely involved, and may largely disappear when the degree of exhaustion is extreme. Furthermore, it is asserted that extreme emotion causes demonstrable histologic lesions in the liver and suprarenals also. In view of the current disagreement as to the effects of emotional factors on suprarenal function, conservatism demands that these be not stressed in this connection. Crile boldly maintains that emotion causes a more rapid exhaustion than is caused by exertion or by trauma, except extensive mangling of tissue, or by any toxic stimulus except the perforation of viscera. In a recent issue of *THE JOURNAL*,² the probable involvement of toxemia in some of the most severe forms of shock was pointed out. As intoxication of a similar sort is less likely in cases of emotional exhaustion, unless the toxic substances are identified as products of fatigue, it may be that shock and "nervous exhaustion" must be more clearly differentiated in the near future. Because prostration is the end-result in either case, it by no means follows that precisely the same causes are at work.

1. Crile, G. W.: Studies in Exhaustion, II, Exertion, *Arch. Surg.* 3: 116 (July) 1921; III, Emotion, *ibid.* 4: 130 (Jan.) 1922.
2. Shock as a Result of Toxemia, editorial, *J. A. M. A.* 78: 585 (Feb. 25) 1922.

Appendicitis.—In appendicitis trust to the physical signs rather than to the symptoms. Local tenderness remains when the appendix has perforated or is gangrenous, even though there be no abdominal tension.—Sir D'Arcy Power, *Surgical Aphorisms, Clin. J.* 49:28 (Feb.) 1920.

Association News

ST. LOUIS SESSION

Special Fare Identification Certificates Available

Members may secure Identification Certificates entitling them to purchase for themselves and for their family dependents round trip tickets to St. Louis in accordance with terms that have been announced previously. Requests for these Identification Certificates should be addressed to the Secretary of the Association, 535 North Dearborn Street, Chicago, and should be accompanied by a self-addressed, stamped envelop.

Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST; SUCH AS RELATE TO SOCIETY ACTIVITIES, NEW HOSPITALS, EDUCATION, PUBLIC HEALTH, ETC.)

ARKANSAS

Election of Officers.—At the meeting of the Pulaski County Medical Society, held recently, Dr. Rolland F. Darnall was elected president and Dr. Royal J. Calcote, secretary.

Hospital News.—The contracts have been let for immediate construction of a modern hospital at Ozark.—The A. Bernard Building, Russellville, is being converted into a government hospital for the treatment of trachoma.

CALIFORNIA

Hospital News.—A new hospital will be erected in Los Angeles, under the auspices of the University Hospital Medical College and Clinic Corporation. The building will be built in the form of a double H, making all the rooms outside rooms.—A new hospital will be erected in Sacramento, to be known as the Sutter Hospital.—A new hospital will be constructed in Oakland early in the summer, at a cost of \$200,000.

New Officers for County Societies.—The following elections of county societies have recently been announced: Alameda County Medical Association: president, Dr. Elmer E. Brinkerhoff, and secretary-treasurer, Dr. Charles L. McVey.—Fresno County Medical Society: president, Dr. George W. Walker, and secretary, Dr. Amos D. Ellsworth.—Sacramento County Medical Society: president, Dr. G. Parker Dillon, and secretary (reelected), Dr. George J. Hall.—San Francisco County Medical Society: president, Dr. Saxton T. Pope, and secretary-treasurer, Dr. LeRoy H. Briggs.

COLORADO

Bonus for Physician.—The town of New Raymer, in a dry land community in eastern Weld County, is offering a bonus of \$200 to any physician that will locate there permanently.

CONNECTICUT

Personal.—Dr. Thaddeus S. Skladzien has been named chairman of the new board of health.

Alumni Day at Yale University.—The second annual medical alumni day was held at Yale University School of Medicine, New Haven, on Washington's birthday, under the presidency of Dr. Benjamin Austin Cheney. Dr. Angell spoke for the university; Prof. Henry W. Farnam, for the hospital society; Dean Milton C. Winternitz, for the medical school, and Dr. Charles Farr, New York, chairman of the section of surgery, Academy of Medicine, for the graduates. The number of graduates returning was much greater than last year and "Medical Alumni Day" will in future be an established annual event at the university.

DISTRICT OF COLUMBIA

Personal.—Dr. Lincoln Humphreys, M. C., U. S. Navy, Washington, has been assigned to the Naval Station, Tutuila, Samoa.—Dr. Allen J. McLaughlin, U. S. Public Health

Service, Washington, has been elected a member of the board of councillors of the Eyesight Conservation Council of New York City.

Appropriation Bill.—The District of Columbia appropriation bill, recently presented to the House and passed, contains appropriations for medical charities in the District of Columbia, \$246,410 is included for the completion of the construction of the Gallinger Municipal Hospital, while \$850,000 is appropriated for the support of the indigent insane in St. Elizabeth's Hospital.

FLORIDA

State Medical Meeting.—It has been announced by the executive committee of the Florida Medical Association that the annual meeting will be held in Havana, Cuba, June 30. The Florida East Coast Railway will run a special Pullman train to Key West, leaving Jacksonville on June 28. Sailing connections will be made at Key West. The P. and O. Steamship Company will have a ship sailing from Tampa on the same date for the convenience of those living in that section of the state. A special excursion rate of one fare for the round trip has been arranged.

GEORGIA

Personal.—Dr. John Calvin Weaver, surgeon, U. S. Penitentiary, Atlanta, has resigned from that institution and will resume general practice.

Muscogee County Medical Society.—At the annual meeting held recently at Columbus, under the presidency of Dr. Frank L. Cosby, the following officers were elected for the ensuing year: president, Dr. Jesse M. Anderson; vice president, Dr. Clifford A. Peacock, and secretary-treasurer, Dr. Willis P. Jordan.

ILLINOIS

Hospital News.—The Lake County General Hospital, Waukegan, was recently damaged by fire at an estimated cost of \$10,000.—A communicable disease hospital will be erected at St. Joseph's Orphanage, Lisle, DuPage County, at a cost of \$10,000.

Physician Knighted.—It is announced that Dr. Clarence E. McKinney, Paxton, who served in the Italian army with the ambulance corps during the World War, has received the official decoration which creates him a "Chevalier of the Order of the Crown of Italy."

Smallpox Survey.—A district health superintendent and a quarantine officer from the state department of public health have recently completed a smallpox survey of Williamson County. The investigation that was carried out through the cooperation of local health officers and public school authorities brought to light a rather surprisingly large number of cases of smallpox that had never been reported. In many instances the patients had received no medical care whatever and little or no quarantine regulations had been observed.

Important Court Decision.—The validity of the rules of the state department of public health for the control of typhoid carriers was upheld by the supreme court of Illinois in its recent decision in the case of *Barmore v. Dr. John Dill Robertson*, commissioner of health of Chicago. In this decision, the court dwelt on the importance of the protection of the public health and the necessity of employing modern scientific methods in securing such protection. The claim that Mrs. Barmore was unlawfully deprived of her liberty by her quarantine as a typhoid carrier was dismissed with the statement that the constitutional guarantee that no person shall be deprived of his liberty without due process of law was not intended to limit the exercise of the police power of the state, such as the enforcement of quarantine regulations, by a board to which such power may be delegated by the legislature.

Chicago

Personal.—Dr. Frederick R. Green, who has been connected with the headquarters office of the American Medical Association since 1905, and who had been secretary of the Council on Health and Public Instruction ever since its organization in 1910, has resigned as secretary of the Council, his resignation to take effect March 31, 1922. Dr. Green resigns to form a partnership with Dr. C. St. Clair Drake and Dr. John Dill Robertson for the publication of a popular monthly magazine, *Health*.—Dr. Walter H. Watterson, Veterans' Bureau, Chicago, has been assigned to the U. S. Veterans' Bureau Hospital No. 76 (Speedway), Chicago, as member of the tuberculosis board.

Chicago Tuberculosis Institute.—The sixteenth annual meeting of the Chicago Tuberculosis Institute will be held March 1, at the Chicago College Club, under the presidency of Dr. Ethan A. Gray. Dr. James A. Britton, attending physician, Edward Sanatorium, Chicago, and Dr. Charles Hatfield, managing director of the National Tuberculosis Association, will deliver addresses.

INDIANA

Hospital News.—The Putnam County Orphans' Home, Greencastle, was destroyed by fire recently. The loss being estimated at approximately \$15,000.—A new wing will be erected to the Union Hospital, Terre Haute.

Personal.—Dr. M. May Allen has been appointed assistant director of the child hygiene division of the Indiana State Board of Health, Indianapolis. Dr. Allen was formerly in charge of a colony of 1,000 French children at Dinard, France.

Joint Medical Meeting.—A joint meeting of the Indianapolis Medical Society and the Indianapolis Dental Society, was held February 28. Dr. Edward C. Rosenow, Mayo Clinic, Rochester, Minn., gave an address on "Sources of Infections."

IOWA

County Society Elections.—New officers of various county societies are: Des Moines County Medical Society; president, James S. Cooper, and secretary-treasurer, Dr. George H. Steidle; the Dubuque County Medical Society; president, Dr. Mary A. Killeen, and secretary, Dr. Howard E. Thompson; Johnson County Medical Society; president, Dr. Joseph H. Wolfe, and secretary-treasurer, Dr. Lawson G. Lowrey; Woodbury County Medical Society; president, Dr. William J. S. Cremin, and secretary-treasurer, Dr. F. Victor Brown; Mashaska County Medical Society; president, Dr. Frederick J. Jarvis, and secretary-treasurer, Dr. Francis A. Gillett.

KENTUCKY

Hospital News.—Plans have been approved by members of the board of tuberculosis hospitals for a \$1,000,000 bond issue for improvements and new buildings at Waverly.—The Riverside Hospital, Harlan, was recently opened by Dr. Lorenzo O. Smith.

Personal.—Dr. Edward J. Strickler, surgeon, M. C., U. S. Army, has been ordered from Camp Pike to Denver.—Dr. William H. McLean, has been appointed resident physician for men at the University of Kentucky, Lexington, to succeed Dr. Allen G. Ireland, who resigned recently to become director of physical education in the public schools of Connecticut.—Dr. George E. Neai, president of the Adams County Medical Society, has been appointed health officer of Adams County.

LOUISIANA

Legality of the Health Board.—The contention concerning the legal status of the present New Orleans Board of Health was determined, February 1, when the attorney general ruled that the present board legally holds office until 1925.

Organization of Board of Health.—The Claiborne Parish Board of Health was recently organized, and the following physicians were elected members: Dr. John W. Featherstone, Homer; Dr. Curtis A. Bailey, Athens, and Dr. Henry C. Baucum, Haynesville.

MARYLAND

Personal.—Dr. William S. Gardner, Baltimore, former president of the Medical and Chirurgical Faculty of Maryland, delivered an address at the meeting of the Washington County Medical Society, February 10.

De Lamar Lectures on Hygiene.—A lecture on "Climate, Health and Civilization" was given by Ellsworth Huntington, Ph.D., research associate in geography, Yale University, New Haven, February 13, at the School of Hygiene and Public Health, Baltimore.

MASSACHUSETTS

Personal.—Dr. Hideyo Noguchi, Rockefeller Institute, New York City, delivered an address, February 16, at the Medical School of Harvard University, Boston, under the auspices of the Department of Tropical Medicine.—Dr. Lonnie O. Farrar has resigned as assistant medical director of the insane asylum, North Middleboro, effective March 1.—Dr. Adelbert M. Hubbell has been elected chairman of the Haverhill board of health.

MICHIGAN

Personal.—Dr. Paul Klebba has been appointed health officer of Hamtramck, to succeed Dr. T. T. Dysart.—Dr. J. F. Thalner has been appointed city physician of Jackson. Dr. Thalner was formerly resident physician of the Sea View Hospital, Staten Island, N. Y.

Class for Schoolchildren Affected with Heart Disease.—A special class for children affected with heart disease who require limited exercise (designated as Group 2) has been established at the Russell School, Detroit. Children attending this class will sit in Kalamazoo chairs with a table arrangement in front. They will be given extra nourishment, such as milk and crackers. A period of rest and sleep during which they can lie down in their chairs will be given after the school exercises. Their school work will be given to them in this room. During the day, graded exercises will be given by physical culture instructors. Dr. Harry Schmidt, who has volunteered to supervise this work, will check up these exercises once a week.

MINNESOTA

Hospital News.—The Waseca Memorial Hospital was formally opened in February. The building was erected at a cost of \$65,000.—The Nurses' Home, St. John's Hospital, Zumbrota, will be enlarged at a cost of \$10,000.

Scarlet Fever at University.—Eighteen cases of scarlet fever have been reported at the University of Minnesota farm campus. The swimming pool has been ordered closed and social activities of the school will be discontinued for the time being.

Personal.—Dr. William W. Brodie, St. Louis, has been appointed superintendent of the U. S. Public Health Service Hospital, St. Paul, to succeed Dr. Charles D. Osborne, who recently resigned.—Dr. Victor N. Peterson, St. Paul, has been elected chief of the staff of the Bethesda Hospital.

Medical Meeting.—At the annual meeting of the Park Region District and County Medical Society the following officers were elected for the ensuing year: president, Dr. Axel C. Baker, Fergus Falls; vice president, Dr. John Jacob Hoffmann, Henning, and secretary-treasurer, Dr. Theodore S. Paulson, Fergus Falls.

MISSOURI

Hospital News.—An addition to St. John's Hospital, Springfield, conducted by the Sisters of Mercy, will be erected at a cost of \$175,000.

Personal.—Dr. Herman E. Pearse, Kansas City, has been appointed a member of the city plan commission by Mayor Strother to succeed Mr. Louis Oppenstein. The term is for four years.

State Medical Meeting.—It has been announced by the executive committee of the Missouri State Medical Association that the next annual session will be held, May 9-11, at Jefferson City, instead of May 16-18, at Excelsior Springs, as previously announced.

Medical College Bill Declared Insufficient.—The referendum on the medical college bill was declared insufficient by the circuit court of Cole County, February 17, and judgment rendered for the plaintiff, who sued to prevent the bill from being referred to the people at the next general election. The attorneys for the Missouri State Medical Association have filed an appeal to the supreme court.

The Missouri Hospital Association.—The association was organized at a meeting of the superintendents and executives of hospitals in Missouri, held at St. Louis, February 17. Dr. L. H. Burlingham, St. Louis, superintendent of Barnes Hospital, was elected president; Dr. B. A. Wilkes, St. Louis, superintendent of the Missouri Baptist Sanitarium, first vice president; Miss Sarah H. Reitz, Mexico, superintendent of Audrain County Hospital, second vice president; Miss Louise Ament, St. Louis, superintendent, Lutheran Hospital, secretary. The purposes of the association as set forth in the constitution are: to promote the welfare of the people of Missouri, to develop hospitals and hospital service, to create efficiency in the various departments and to secure the cooperation of all other organizations engaged in the same work.

NEW YORK

Physicians Oppose Five Bills.—At the meeting of the Flatbush Medical Society, February 10, at Brooklyn, resolutions were adopted to oppose five bills pending in Albany: the

Male bill, the state maternity bill, the chiropractic bill, the optometrist bill and the medical dental inspection and attendance bill. In the case of the chiropractic bill, the report based its disapproval on the ground of insufficient preliminary training.

Personal.—Dr. Luther F. Warren, professor of medicine, Long Island College Hospital, Brooklyn, delivered a lecture on "Nephritis," illustrated with lantern slides, at the recent meeting of the Bay Ridge Medical Society.—Dr. Ward Young has been reappointed health officer of Gouveneur for a term of four years.—Dr. Harry Moss has resigned from the East New York Hospital, Brooklyn, and will take charge of the People's Hospital, New York City.

Campaign Against Diphtheria.—The cities of Auburn, Schenectady and Syracuse have been selected for a thorough systematic trial of the new methods of combating diphtheria, to be conducted by the state department of health in cooperation with local health and school officials, the American Red Cross and other civic agencies. Dr. Abraham Zingher, New York, will deliver addresses on the Schick test throughout the state. According to statistics recently reported, New York state has shown a marked increase in the number of cases and of deaths from diphtheria during the last three years.

Hospital News.—At the annual meeting of the trustees of Faxon Hospital, Utica, January 26, it was announced that the sum of \$206,280 had been raised for a new hospital building. Construction work will be begun as soon as weather conditions permit. Dr. Thomas H. Farrell was elected president of the hospital staff.—A new two-story brick hospital is to be erected in connection with the Odd Fellows' Home, Batavia.—The People's Hospital, New York City, will erect a new building at a cost of \$1,500,000.—Twenty-four new buildings are under construction at the Sea View Hospital, Staten Island, with a capacity for 1,500 patients. The Sea View Hospital has a capacity of 760 beds.

Committee on Prize Essays.—It has been announced by the committee that the Merritt H. Cash Prize and the Lucien Howe Prize of \$100 each, will be open for competition at the annual meeting of the Medical Society of the state of New York, which will be held April 17, at Albany. The Lucien Howe Prize will be awarded for the best original contribution to the knowledge of surgery, preferably ophthalmology, and is not limited to members of the state society, any physician being at liberty to compete. The Merritt H. Cash Prize will be awarded for the best original essay on medical or surgery subjects and is open only to members of the Medical Society of the State of New York. The essays must be type-written or printed, and the only means of identification of the author shall be a motto or other device. It shall be accompanied by a sealed envelop which shall have, on the outside, the same motto or device, and shall contain the name and the address of the writer. Essays should be sent to Dr. Albert Vander Veer, 28 Eagle Street, Albany, not later than April 1.

State Maternity Bill Repudiates Federal Aid.—In accordance with recommendations of Governor Miller, a bill has been introduced into the legislature by Senator Frederick M. Davenport of Oneida, which will establish in the state department of health a division of maternity, infancy and child hygiene. After many conferences, the legislative leaders have decided not to accept federal aid in maternity care, as provided in the Sheppard-Towner Act. Governor Miller objects to the Sheppard-Towner Act as undue interference in state affairs by the federal government. The proposed bill carries an appropriation of \$100,000 for the establishment of the new division in the state department of health. The bill provides for holding health consultations for mothers and children in rural districts, in cooperation with local health officers and other physicians; for instructing local health nurses in the hygiene of maternity and infancy; for the instruction of mothers by physicians and nurses and through publications, concerning the hygiene of maternity and infancy. There is a clause in the bill which looks toward the prevention of blindness in infancy, and the care and rehabilitation of crippled children not otherwise provided for.

New York City

Fund for Cancer Work.—The American Society for the Control of Cancer at its annual meeting, February 23, in New York, announced a special gift by the Commonwealth Fund of New York, for establishing a field service throughout the United States and Canada.

Personal.—Dr. Horatio Burt Williams, assistant professor of physiology at Columbia University has been appointed Dalton professor of physiology at that university. Dr. Williams is chairman of the National Research Council committee on research methods and technic in physics.

Postoffice Establishes Dispensary.—The New York post-office has established a dispensary on the fourth floor of its central office. It is prepared to care for the three thousand men and women who work there and in the various branch postoffices of the city. The dispensary is being conducted with the cooperation of the U. S. Public Health Service, which has placed Col. E. K. Sprague in charge.

NORTH CAROLINA

Physician Sentenced to Insane Asylum.—It has been reported that Dr. James W. Peacock, Thomasville, has been incarcerated in the criminal insane ward of the state prison for the murder of Police Chief Taylor.

Physician Freed of Criminal Charge.—It has been announced that Dr. Leedom Sharp, Beaufort, charged with criminal abortion and practicing medicine without a license, received a verdict of not guilty, February 2, on the abortion charge and entered a plea of nolo contendere as to the charge of practicing medicine without a license. Dr. Sharp cannot practice medicine again in North Carolina and must leave the state within a reasonable length of time. A bond of \$500 was required to carry out this agreement.

Hospital News.—It has been announced that the order of B'Nai B'rith will build a tuberculosis sanatorium in Asheville. The new hospital will be primarily for Jews, but gentiles will be received also, if conditions will provide accommodations for them. The B'Nai B'rith has established hospitals in Hot Springs, Denver and Ohio.—Park View Hospital, Rocky Mount, has recently let a contract for fifteen new private rooms and is installing a refrigerating plant and complete laundry equipment costing about \$20,000.—The contract has been awarded for the erection of a hospital at Otech, at a cost of \$350,000.

OHIO

Hospital News.—A new tuberculosis hospital will be erected at Ashtabula in the near future.—Fire recently destroyed the vacant hospital wards at Camp Sherman over an area of 10 acres.

Building for Physicians.—A new five story, steel and concrete building will be constructed at Toledo, at a cost of \$250,000, to contain fifty-five suites for physicians. The entire top floor will be devoted to a downtown emergency hospital.

Personal.—Dr. Arch I. Carson, Cincinnati, has been appointed member of the state board of health, to succeed the late Dr. Gustave Zinke.—Dr. John W. Wilce, Ohio football coach, has been appointed member of the Columbus board of health.

Goiter Clinic.—Arrangements have been made for the holding of a free goiter clinic in Urbana for persons afflicted with that malady, under the auspices of the Champaign County Medical Society. The clinic will be held March 9, and will be in charge of Dr. Andre Crotti, Columbus. Dr. Whittaker, Columbus, will deliver an address at the meeting.

OKLAHOMA

Hospital News.—The contract has been awarded for the construction of a city hospital at Cushing, at a cost of \$50,000.

Personal.—Dr. Samuel P. Ross has resigned as city health officer of Ada, following six years' service.—Dr. James R. McLaughlin has been appointed superintendent of the Western Oklahoma Tuberculosis Sanatorium, Clinton, which will be opened about March.

County Medical Meeting.—At the annual meeting of the Okmulgee County Medical Society, held February 20, under the presidency of Dr. William B. Pigg, the following officers were elected for the ensuing year: president, Dr. Ira W. Robertson; vice president, Dr. Leslie D. Conn, and secretary, Dr. Frank A. Howell.

PENNSYLVANIA

Investigation of Housing Conditions.—At the meeting of Lycoming County Tuberculosis Society, held February 14, at

Williamsport, a resolution was adopted, recommending that a committee be appointed to investigate the housing conditions of the city, and report its findings to the executive board. Plans of the society for the ensuing year will consist of distribution of health literature, the dissemination of information regarding the care of health through the newspapers, the showing of health moving pictures, promotion of an antitify campaign and work for the establishment of a tuberculosis sanatorium.

Personal.—Dr. Daniel F. Daley, Kingston, has been appointed medical examiner of the school board, Wilkes-Barre, to succeed Dr. Ira T. Teitsworth, who resigned recently.—Dr. Felix A. Jaworski, McKeesport, has succeeded Dr. James P. Blackburn on the medical staff of the City Hospital.—Dr. Herman A. Gailey, formerly of the Johns Hopkins Hospital, Baltimore, has been appointed a member of the medical staff of the York Hospital.—Dr. Arthur F. P. Huston has accepted a position on the medical staff of the department of charities, Pittsburgh, to succeed Dr. Charles E. Reif, who resigned recently.

Election of Officers.—New officers of the following societies have recently been elected: The Armstrong County Medical Society, at the recent annual meeting, elected Dr. Oren C. Campbell, Ford City, president for 1922, and Dr. Jay B. F. Wyant, Kittanning, secretary-treasurer.—Clearfield County Medical Society elected Dr. James A. Miller president, and Dr. John M. Quigley secretary.—The Montgomery County Medical Society elected Dr. George W. Miller president, Dr. Edgar S. Buyers recording and financial secretary, and Dr. John C. Simpson corresponding secretary and reporter.—The Wyoming County Medical Society elected, as president, Dr. Van Cleit Decker, and as secretary-treasurer, Dr. Herbert L. McKown.—The Warren County Medical Society elected, as president, Dr. Willis M. Baker, and, as secretary, Elizabeth S. Beatty.—The Susquehanna County Medical Society elected Dr. Abram E. Snyder, Montrose, president, and Dr. Edward R. Gardner, Montrose, secretary and treasurer.

Philadelphia

Entrance Standard Raised.—At a meeting of the board of trustees, February 20, it was decided that, beginning in 1923, three years' collegiate preparation will be a prerequisite for admission to the University of Pennsylvania Medical School. The following year, all students will be required either to have a college degree or to have completed three years of collegiate training, with the provision that the bachelor's degree will be given in the first year of medicine. Since the freshman class in medicine at the University of Pennsylvania is limited to 100, and the faculty has a selection from a wide number of candidates, few students will be affected by the new ruling. Nearly all students now attending the medical school have academic degrees.

Annual Meeting of Philadelphia Charities.—The Public Charities Association at its annual meeting, February 16, decided to devote the major part of its energies during the coming year to the advancement of children's welfare work throughout the state. The association will cooperate with the state welfare department in this work. Particular attention also is to be given to mental hygiene. Petition will be made at Harrisburg, it was announced, for legislation providing for the construction of more schools in which the mentally handicapped may be trained and treated. Dr. Charles H. Frazier presided at the meeting. It was announced that the expenses of the association last year totaled approximately \$24,394. A large percentage of this amount was spent, declared the secretary, in the service of the state, at the request of the state welfare department. The association is affiliated with the Welfare Federation.

SOUTH CAROLINA

Public Nurse Association.—The first public meeting of the recently organized Charleston Public Nursing Association, was held January 15, at Charleston, under the presidency of A. T. Symthe. The association will look after the well being of the child from the prenatal stage. Dr. Archibald Johnston Buist addressed the meeting.

School Health Contests.—A health contest between the schools of the county was inaugurated, February 6, for prizes of \$50, \$30 and \$20 offered by the chamber of commerce, for the school that shows the greatest improvement in twelve months. Dr. Eugene O. Chimene, Greenville County Health

Commission, gave an address on "What the Community Can Do to Promote Public Health Work."

SOUTH DAKOTA

Personal.—Dr. Dickey W. Craig, Sioux Falls, has been appointed physician of the state penitentiary, to succeed the late Dr. W. E. Winsett.—Dr. Clarence V. Auld, Plankinton, has been elected president of the Mitchell District Medical Society.—Dr. Finn Koren has resigned as chief of the staff of the Lutheran Hospital, Watertown, and will be succeeded by Dr. Andrew J. Paulson.

TENNESSEE

Personal.—Dr. Frank B. Bogart, Chattanooga, has been appointed head of the laboratory at Baroness Erlanger Hospital.

Hospital News.—A contract has been awarded for the erection of an institution for the feebleminded at Nashville at a cost of \$210,000.—Contracts have been awarded for the new Jewish Hospital to be built at Memphis at a cost of \$750,000.

Commission on Medical Education.—The commission on medical education held its first annual session in the Meharry Auditorium, Nashville, in January, under the auspices of the National Medical Association, an organization of colored physicians, of which Dr. Henry M. Green, Knoxville, is president. More than fifty colleges and universities were represented at the meeting.

TEXAS

New Society Presidents.—Dr. Walter T. Brown, Wallis, was elected president of the Austin County Medical Society at the recent meeting. Dr. William E. Campbell, Elgin, has been elected president of the Bastrop County Medical Society. Dr. Thaddeus K. Jones, Henrietta, is the newly elected president of the Clay County Medical Society, and Dr. James E. Morris, Madisonville, of the Madison County Medical Society.

Federal Representatives to Attend Medical Meeting.—At the meeting of the Texas State Medical Association, to be held in El Paso in May, representatives of the bureaus of entomology, biology survey and plant industry of the U. S. Department of Agriculture will be present and deliver addresses on the ravages of the fly, rodents, predatory animals and insects and their relation to plant and animal life.

WASHINGTON

Personal.—The mayor has appointed Dr. James A. MacLachlan city health officer of Dayton, to succeed the late Dr. John M. Miller.

Hospital News.—The Fairhaven Hotel, Bellingham, built at a cost of \$300,000, has been purchased by a corporation and will be converted into the Yoghurt Sanatorium, Inc. The building is five stories high with 100 rooms and contains the original furniture. Dr. Andrew Jefferson Nelson, Seattle, will be in charge of the institution.—The Anacortes Hospital has been purchased by five physicians of the city and will be managed by them under the name of the Anacortes Physicians, Inc.—The new Normal School Hospital, Cheney, was opened, January 13.—The Kulshan Hospital, Sumas, was completely destroyed by fire in December. A new brick building will be erected in the spring.

WISCONSIN

Banquet for Physician.—At the Douglas County Medical Association's annual banquet, held February 10, at Superior, under the presidency of Dr. Thomas H. Shastid, Dr. William E. Ground was the guest of honor. The dinner was in celebration of Dr. Ground's sixtieth birthday and the completion of thirty years' of practice in Superior. Members of the association presented Dr. Ground with a ruby platinum stick pin. Dr. Patrick G. McGill was toastmaster.

CANADA

Hospital News.—Dr. John Christie has resigned as superintendent of the Ocean Falls Hospital, B. C., and will be succeeded by Dr. Bennett, Vancouver.

Skeletons for Hospital.—Thirty-three skeletons of Eskimos, from the Mackenzie River area, have been sent to Dalhousie University, Halifax, N. S., where they will be measured and

studied for the exact ethnological status of Eskimos for the Canadian government, by Dr. John Cameron. The skeletons were collected by the Arctic exploration expedition sent out by the government, which has spent five years studying the habits, language and characteristics of the Eskimo tribes.

GENERAL

National Academy of Sciences.—The annual meeting of the society will be held at the United States National Museum, Washington, D. C., April 24-26.

Tri-State Medical Meeting.—The twenty-fourth annual session of the Tri-State Medical Association of the Carolinas and Virginia was held, February 22-23, at Norfolk, Va., under the presidency of Dr. William W. Fennell, Rock Hill, S. C.

Eugenics Research Association.—The annual meeting of the association will be held, June 10, at Cold Spring Harbor, Long Island, N. Y., under the presidency of Dr. Lewellys F. Barker, Baltimore, who will deliver an address on the subject of "Heredity and the Endocrine Glands."

Sir Thomas Lewis to Deliver Noble Wiley Jones Lectures.—Sir Thomas Lewis, an English authority on the heart, author of "The Mechanism and Graphic Registration of Heart Beat" and several other books on the subject, will this year deliver the Noble Wiley Jones Lectures under the auspices of the Medical School of the University of Oregon. The dates will be May 15 to 19, inclusive. The first and second lectures will deal with "Auricular Fibrillation," the third and fourth with "Quinidin," and the fifth lecture will be on the subject of "Digitalis."

Archives of Occupational Therapy.—This periodical, the first number of which has just appeared, is intended to serve as a medium of publication for papers on occupational therapy. It is the official organ of the American Occupational Therapy Association, and will publish proceedings, book reviews, abstracts and a general bibliography of occupational therapy complete the contents. The journal is edited by Dr. William R. Dunton and an editorial board. The periodical will be issued bimonthly, one volume per year, 500 pages constituting a volume.

Tuberculosis Schools for Physicians.—It has been announced that tuberculosis schools for medical officers in soldiers' hospitals and examining stations, which were established more than a year ago, by the U. S. Public Health Service, have trained several hundred service physicians, who have qualified in making special examinations of the chest and in reporting thereon with accuracy satisfactory to requirements of the rating board of the Veterans' Bureau. In this way, traveling expenses and the inconvenience and hazard to tuberculous veterans in going long distances to chest specialists has more than balanced the cost of the tuition.

Favorable Report on Anthrax Prevention Measure.—The House committee on interstate and foreign commerce has made a favorable report to the House recommending the passage of the bill now before congress, preventing the transportation in interstate commerce of shaving brushes containing horsehair. The bill also prohibits the importation into this country of such articles. The design of the measure, introduced more than two years ago at the suggestion of the U. S. Public Health Service, is to prevent the spread of anthrax through contaminated shaving brushes. The House is expected to take a vote on the measure in the near future.

Personal.—It has been announced by the secretary of the Rockefeller Foundation that Prof. Vernon Lyman Kellogg, zoologist, secretary of the National Research Council, Washington, D. C., and John W. Davis, attorney, New York City, formerly ambassador to Great Britain, have been elected trustees of the Rockefeller Foundation. Professor Kellogg served for many years as professor of entomology at the University of Kansas, Kansas City, Mo., and at Leland Stanford Junior University, San Francisco. During the war he was associated with Mr. Hoover in relief work in Belgium and later in the general child feeding program in central Europe.

Influenza in the United States.—A comparison of the number of cases of influenza reported for the first six weeks of 1922 with the number reported for a similar period during 1921 and 1920 shows that there is a greater amount of influenza this year than last year, but the present situation is not at all comparable to what conditions were in the great epidemic of 1919-1920. For the first six weeks of 1922,

there were reported, in twenty-four states, 28,075 cases; for 1921, in twenty-two states, there were 4,143 cases, and for 1920, in twenty-three states, 477,289 cases. The figures as to the individual states are published in *Public Health Reports* for February 17.

Appropriation to Enforce Sheppard-Towner Act.—In the appropriation bill of the Department of Commerce for the coming fiscal year \$1,240,000 has been included, to be used for the promotion of the welfare and hygiene of maternity and infancy. This sum is to cover the provisions and carry out the purposes of the maternity bill that passed the last session of Congress. The money is to be dispensed by the chief of the Children's Bureau. The Department of Commerce appropriation measure also carried appropriations for the operation of the Children's Bureau and the Women's Bureau, as well as substantial sums for the repair and remodeling of the immigration station at Ellis Island, N. Y.

Information on Maternal Welfare.—A joint committee of the American Gynecological Society and the American Child Hygiene Association, appointed to consider problems on maternal welfare, has issued a report as to what the committee's functions will include. In the main they concern the elaboration of a complete scheme of maternal welfare with such departments as preservation of life and health of the mother; increase in the number of fruitful pregnancies; better facilities for the care of the unmarried mother; definition of the relationship of such work to other health and welfare activities; establishment of agencies of well qualified men to advise with governmental agencies, and particularly more intimate cooperation with pediatricians. The committee is anxious to hear from physicians along these lines, and those who wish copies of the report may secure them by writing to the chairman, Dr. F. L. Adair, 730 LaSalle Building, Minneapolis, Minn.

LATIN AMERICA

Memorial to Dr. Elisha Kent Kane.—A memorial was unveiled, February 16, at Havana, to Dr. Elisha Kent Kane, Arctic explorer, who died there seventy-five years ago.

Change of Editor.—Admiral Dr. Calmon Bulcão has ceased to be one of the editors of the *Revista de Medicina e Higiene Militar*, of Rio de Janeiro, because of his retirement from active duty. Rear Admiral Dr. Flavio de Souza Mendes, of the Medical Corps of the Brazilian navy, has taken his place.

Personal.—Dr. A. Benchetrit, of Venezuela, has been in Hawaii studying the use of chaulmoogra oil in the treatment of leprosy.—Dr. J. F. Recalde has been appointed by the Paraguayan government to take the two months' course in malaria and hookworm disease at the Public Health Institute established by the Rockefeller Institute in S. Paulo, Brazil.—Dr. F. Rojas, of Ecuador, has come to New York to take a position in the bacteriologic laboratories of the Rockefeller Foundation.

FOREIGN

French Medical Congress.—The French Congress on Internal Medicine meets this year at Paris in October.

Gift to University.—It is announced from Brussels that a legacy of \$100,000 has been donated to Louvain University, Belgium, for the erection of a special building for cancer research.

Red Cross Publications.—The *Elements of Hygiene and Combattez et évitez la tuberculose* will be translated into Bulgarian by the Bulgarian Red Cross, and will contain illustrations.

Belgian Red Cross.—The Belgian Red Cross has recently donated 50,000 Belgian francs to the League of Red Cross Societies for relief work in Russia, under Dr. Nansen, to be used for the purchase of rye.

Honor for Madame Curie.—Madame Marie Sklodowski Curie was elected a member of the French Academy of Medicine, February 7. By her election Madame Curie becomes the first woman academician.

Silvanus Thompson Memorial Lecture.—At a special meeting of the Roentgen Ray Society, to be held, March 21, in London, the fifth Silvanus Thompson Memorial Lecture will be delivered by Sir Oliver J. Lodge, F.R.S.

History of Medicine in Belgium.—The Royal Society of Archeology of Brussels organized a section of the history of medicine at a recent meeting of the society. Dr. Mélis was

elected president, and Dr. Muls, Brussels, secretary, of the Association.

Medical Society of London.—Dr. Henri Hartmann, professor of clinical surgery and surgeon to the Hotel Dieu Hospital, Paris, gave an address on inflammatory strictures of the rectum, at a recent meeting of the society. The lecture was in English and the discussion in French.

Italian Prize Goes to Holland.—It is announced from Bologna that the Umberto I prize offered by the Rizzoli Orthopedic Institute has been awarded to Dr. Murk Jansen of Leyden for the works he offered in competition. The committee of awards consisted of Professors Novaro, Dalla Vedova and V. Putti.

Ophthalmological Society of the United Kingdom.—The annual congress of the society will be held, May 11-13, in London, when the Edward Nettleship prize will be presented. Dr. T. M. Legge, medical inspector of factories, will discuss industrial diseases of the eye, miners' nystagmus and glass-blowers' cataract.

An International Medical Congress.—Professor Henschen of Sweden is calling on the profession in Sweden to organize a truly international medical congress to be held at Stockholm, as a neutral meeting place for all nations. The preparatory organization is already under way, the *Deutsche medizinische Wochenschrift* is informed.

Investigation of Protozoological Diseases.—Prof. J. Gordon Thompson, lecturer at the London School of Tropical Medicine, London, England, sailed, January 5, to Rhodesia, for a six months' investigation of protozoological diseases, at the invitation of British South Africa. He will give special attention to the etiology of blackwater fever.

Red Cross in Poland.—It has been announced that a section of the Polish Red Cross has been organized in the republic created by the Soviet between Lake Baikal and the Pacific Ocean, which, under great difficulties, is accomplishing useful work among the 40,000 Poles in Siberia, Manchuria and Mongolia. A Pasteur institute has also been created under the supervision of the Polish Red Cross.

Tribute to the Pioneers in Antitoxic Serum Treatment.—The conference on international serum standards, held at London in December, with Professor Madsen of the State Serum Institute at Copenhagen in the chair, sent a telegram of greeting to Roux at Paris and to Kitasato at Tokyo, and also to the widow of E. von Behring at Marburg, and to the widow of Ehrlich at Frankfurt, as a tribute to their deceased husbands.

Italian Congress of Medical Radiology.—The fourth congress of the Società Italiana di Radiologia Medica will be held in Bologna, May 9-11, at the Orthopedical Institute Rizzoli, under the presidency of Prof. Aristide Busi. In connection with the congress, an exhibition of radiologic apparatus will be held. For further information in regard to the congress, apply to Dr. Alberto Possati, secretary, Villa Verde, Bologna, Italy.

Compulsory Insurance Against Sickness in Germany.—The *Deutsche medizinische Wochenschrift* relates that 720 local social insurance societies have now a fund of 503 millions of marks. In 1914 one group of 2,783 local societies of this kind and another group of 9,854 societies paid, respectively, 19.2 and 20.6 per cent. for medical aid, out of their total expenditures. In the 720 groups first mentioned, last year only 11 per cent. of their total expenditures was paid to physicians.

Personal.—The Finland Medical Association has elected Prof. T. Axenfeld of Freiburg an honorary member.—The Rinecker prize, a medal and 1,000 marks, has been awarded by the University of Würzburg to Dr. F. Hofmeister, professor emeritus for physiologic chemistry at that institution.—A memorial tablet has been placed on the wall of the house occupied 1866-1869 by Konrad Roentgen, while a student at Zurich. The initiative in the matter was taken by the Swiss Roentgen Society.

Appropriation for Further Study of Friedmann's Remedy for Tuberculosis.—The budget of the ministry for science, etc., in Germany contains an item of 800,000 marks for research on the Friedmann remedy. The *Deutsche medizinische Wochenschrift* protested against setting aside such a comparatively large sum for the committee's work in this line. The Prussian landtag decided the same, and the terms of the appropriation were changed to read for research on

tuberculosis. Lubarsch is the chairman of the committee appointed to study the Friedmann remedy.

Octocentenary of Hospital.—Preliminary plans for the celebration of the eight-hundredth anniversary of the founding of St. Bartholomew's Hospital, London, England, have been started. The hospital was founded on its present site by Rahere, in 1123, and received its first charter from King Henry I of England. The Prince of Wales is president of the hospital, and will attend the celebration. All universities are invited to send representatives. The lord mayor of London is chairman of the committee.

Antivenereal Disease Consulting Dispensaries.—A Berlin exchange relates that there were 164 of these *beratungsstellen* in 1920, and there were 184,551 consultations given, an increase of 80 per cent. over the previous year. Of the 86,456 applicants in 1920, 29,116 of the 54,547 men had syphilis, and 1,533 had both syphilis and gonorrhoea. Of the 30,256 women, 19,364 had syphilis, and 1,196 both syphilis and gonorrhoea. Of the 1,633 children, 1,067 had syphilis and 5 both syphilis and gonorrhoea, 496 gonorrhoea alone. The total expense was 1,110,721 marks in 1919 and 2,880,831 in 1921.

Medical Research Council.—It has been announced by the medical research council of England that its total resources have been reduced and that it must omit the prosecution of researches which would have indubitable scientific value toward the advancement of preventive or curative medicine. The medical research council, in cooperation with the ministry of health, the board of health for Scotland and the ministry of health for Ireland, was formed for the investigation of tuberculosis, nutritional diseases, food poisoning and dental decay, and the treatment of venereal disease, or rheumatism and allied diseases, and of mental disorders.

The Quakers' Relief for German Children to Be Suspended.—The *Deutsche medizinische Wochenschrift* states that after two years of its indefatigable and blessed work to aid the children of Germany, the Friends Relief organization is giving up this task in Germany, to concentrate its efforts elsewhere. Our exchange adds that the work is to be continued, on the same scale, by other foreign relief organizations. About 600,000 children and mothers are being given this supplementary food daily, and the continuance of this to July is already guaranteed. The expense is being borne entirely now by the German-Americans who founded the so-called Three Million Dollar Fund.

Appeal for Assistance for Professional Men and Women of Vienna.—Information recently received from Vienna by the Friends Relief Mission indicates that the winter has been severe and that assistance is badly needed by the professional men and women of Austria. Gifts of clothing are particularly desired, as this is the most pressing general requirement. Most of these people are still receiving money which will provide a minimum amount of food for the family but leaves nothing to spend on clothing. Clothing for the summer, particularly underclothing, is a great necessity. Those desiring to contribute may send material to the American Friends' Service Committee, 20 South Twelfth Street, Philadelphia.

Industrial Accident Congress.—Our Spanish exchanges state that the First Medical Congress on Accidents to Workmen recently closed its sessions at Zaragoza. The minister of labor and the rector of the university presided, and among the resolutions adopted were some to the effect that hernia should be regarded as entitling to two months' wages or an operation at the expense of the employer; that the workman should be given the choice between a needed operation and the loss of his indemnity; also that diseases contracted in the hospital as a complication of the accident or contagion entitle to compensation, as likewise death from the operation. Strict measures against malingering, and vocational training for the disabled were also advocated.

Deaths in Other Countries

Dr. E. Rosenbaum of Frankfurt on the Main.—Dr. J. Boas of Berlin, aged 90.—Dr. E. Paixão of Petropolis, Brazil.—Dr. Adolfo Mujica of Buenos Aires, member of the Argentine senate and appointed minister of agriculture in 1911, after his resignation from the chair of botany in the school of pharmacy of the University of Buenos Aires.—The *Crónica Médico-Quirúrgica* of Havana reports the deaths of Dr. Ramon Blanco Castañeda and Dr. J. Fernández Liebrez of Havana, and of Dr. J. de la C. Comoglio and Dr. Lucas La Guardia.

Government Services

Veterans' Bureau Takes Over Health Service Dispensaries

The U. S. Veterans' Bureau this week formally took possession of the U. S. Public Health Service dispensaries and outpatient facilities in twenty-nine cities throughout the country. Both the medical service and the medical staff of the U. S. Veterans' Bureau have been increased as a result of this action. In addition to the relinquishment of the dispensaries by the U. S. Public Health Service, equipment and personnel will also be transferred.

Reports of the Surgeon Generals

Following the gradual reduction of war activities, including demobilization of troops, the work of the offices of the surgeon generals of various public services has been gradually returning to normal status.

SURGEON GENERAL OF THE ARMY

The report of the Surgeon General of the Army analyzes the personnel of the department and explains its relation with the newly formed Veterans' Bureau. Special attention is called to the poor quality of recruits now being examined

made in rural sanitation. A large section of the report deals with the relation of the U. S. Public Health Service to the War Risk Insurance Bureau and the Veterans' Bureau. The surgeon general points out that every effort should be made during the coming year to abandon as rapidly as possible unsatisfactory hospitals, to improve existing plants and as far as possible to consolidate hospitals now operated by the service. He reiterates his belief that the U. S. Public Health Service has met the emergency in the care of veterans of the World War in as "efficient manner as it was humanly possible under the circumstances to do."

Legislation Governing Pay of Army, Navy and Public Health Service Officers

The Joint Congressional Committee that has been at work for several weeks drafting the bill to readjust the pay of officers in the army, the navy and the Public Health Service has agreed on the terms of this legislation. In drafting the bill, the committee considered the questions involved from three essential fundamental points: (1) a plan on which pay would be given according to rank and length of service; (2) the effect on living conditions of the individual officer with respect to rank and length of service; (3) the effect on the army, the navy and the Public Health Service during the next fifteen and thirty years.

GRADUATED SCALE OF ALLOWANCE

Surgeons in U. S. Public Health Service, Twenty Years' Service
Committee Plan

Present Compensation		1922 Cost of Living		1914 Cost of Living, Standard		1908 Pay	
\$3,000	Base pay	\$3,000	Base pay	\$3,000	Base pay	\$3,000	Base pay
1,000	Longevity pay	900	Longevity pay	900	Longevity pay	1,000	Longevity pay
840	Bonus act of May 5, 1920	657	Subsistence	398	Subsistence	976	Commutation
976	Commutation	1,200	Quarters	708	Quarters		
\$5,816	Total	\$5,757	Total	\$5,006	Total	\$4,976	Total
* Passed Assistant Surgeons, Ten Years' Service							
\$2,400	Base pay	\$2,400	Base pay	\$2,400	Base pay	\$2,400	Base pay
480	Longevity pay	360	Longevity pay	360	Longevity pay	480	Longevity pay
720	Bonus act of May 5, 1920	438	Subsistence	265	Subsistence	801	Commutation
801	Commutation	960	Quarters	567	Quarters		
\$4,401	Total	\$4,158	Total	\$3,592	Total	\$3,681	Total
Passed Assistant Surgeons, Six Years' Service							
\$2,400	Base pay	\$2,400	Base pay	\$2,400	Base pay	\$2,400	Base pay
240	Longevity pay	240	Longevity pay	240	Longevity pay	240	Longevity pay
720	Bonus act of May 5, 1920	438	Subsistence	265	Subsistence	801	Commutation
801	Commutation	960	Quarters	567	Quarters		
\$4,161	Total	\$4,038	Total	\$3,472	Total	\$3,441	Total
Assistant Surgeon							
\$2,000	Base pay	\$2,000	Base pay	\$2,000	Base pay	\$2,000	Base pay
600	Longevity pay	438	Subsistence	265	Subsistence	624	Subsistence
624	Commutation	720	Quarters	425	Quarters		
\$3,224	Total	\$3,158	Total	\$2,690	Total	\$2,624	Total

for military service, especially the enlistment of many men of immature age. Some of the particularly notable features discussed under health of the army are the slight reappearance of epidemic influenza and a pronounced epidemic of dengue among white troops in the Philippines. Rates for venereal disease are tending to show marked decrease.

SURGEON GENERAL OF THE NAVY

The Navy Department has adopted a policy of retrenchment, but cooperation with the Veterans' Bureau has required that hospital establishments continue to be maintained almost up to wartime status. Attention is called to the fact that the navy has had difficulty in securing acquisitions to the commissioned personnel. Special efforts are now being made to supply educational advantages for medical officers. In general, the work is tending to return to the routine which existed previous to the war.

SURGEON GENERAL OF UNITED STATES PUBLIC HEALTH SERVICE

The outstanding feature of the work of the last year has been the improving of national and interstate quarantine measures. No serious epidemic has been introduced into the United States during the year. Special efforts have been

A brief analysis of the provisions for service pay appeared in this department, February 11.

An important provision of the bill is Section 5, which provides for a graduated scale of allowance for subsistence based on the cost of food and subsistence in the calendar year 1922 from statistical estimates furnished to the President by the Secretary of Labor. If the cost of food and subsistence in subsequent years should be reduced, the allowance for subsistence will be accordingly reduced by the terms of the bill. The application of this arrangement is shown in the accompanying table, which applies particularly to surgeons in the Public Health Service. The table shows comparatively the present compensation, the committee plan on the cost of subsistence for 1922 and 1914, and the service pay for the year 1908.

This proposed legislation has the approval of medical officers in the army, navy and Public Health Service. Those who have had long experience in the difficult problem of adjusting pay schedules are enthusiastic in their praise of the bill. Senator Wadsworth, chairman of the Joint Committee which drafted the measure, states that "it is the most scientifically drawn pay bill that the government ever has had." The measure will soon be reported to the Senate and House for final disposition.

Foreign Letters

LONDON

(From Our Regular Correspondent)

Feb. 6, 1922.

The Influenza Epidemic

The influenza epidemic is on the decline. In London the deaths from the disease, which reached 551 in the week ending January 14, fell, in the weeks ending January 21 and 28, respectively, to 443 and 320. In 105 great towns of England, the decline has not yet begun, the figures for the three weeks mentioned being 1,262, 1,433 and 1,450. As far back as the beginning of November, a sharp rise in the mortality ascribed to heart disease and to bronchitis and bronchopneumonia occurred. At that time, the number of deaths ascribed to influenza was not abnormal for the time of year. About the middle of November, it showed a slight rise, but not until the last week of the year was the increase marked. It is, therefore, suggested that, at the beginning of November, influenza began to be prevalent in a mild form which was sufficient to kill only people with damaged hearts or bronchial trouble.

The Causation of Rickets

A report just issued by the Medical Research Committee on experimental rickets should serve as a warning against relying too much on experimental investigations of the problems of human disease. In 1919, the committee published a report on accessory food factors (vitamins), which definitely placed rickets among the deficiency diseases. This report was based largely on the experimental work of Dr. E. Mellanby on puppies. He concluded that rickets produced in them was due to lack in their food of an antirachitic factor which had a similar distribution to fat soluble A and was possibly identical with it. The present report gives the result of five years' research by Dr. Mellanby, who now confesses that a wider view must be taken of the causation. Recent investigations of deficiency diseases, such as beriberi and scurvy, appear to show that they are very limited in their etiology; but this does not hold for rickets. Indeed, Dr. Mellanby suggests that knowledge of the two former diseases would be greatly increased if other elements in the diet and the mode of life were investigated as well as the respective vitamins. Dr. Mellanby found that many of the food elements exert a potent influence on bone calcification and on growth, and that there is a great interplay among these substances. So close is the interrelation among dietetic elements that a condition which appears of prime importance at one time may sink into relative insignificance at another. He found that the following factors tend to prevent rickets in puppies: (1) plenty of calcium and phosphorus in the diet; (2) something associated with certain fats, probably identical with the fat soluble vitamin; (3) meat; (4) exercise. The following factors tend to produce rickets: (1) a deficiency of calcium and phosphorus in the diet; (2) a deficiency of fat containing the antirachitic vitamin; (3) excess of bread, other cereals or carbohydrates; (4) absence of meat; (5) excess of the protein moiety of caseinogen free from phosphorus calcium; (6) confinement. Of these conditions, probably the most common cause of rickets in children is a combination of relatively deficient antirachitic vitamin and an excessive amount of bread. In late or adolescent rickets, probably deficient calcium in the diet is also causative and possibly is the most important factor. Because of the interdependence of these dietetic factors, it is impossible to say what is the absolute amount of each necessary to produce the maximum result. It is a question of balance, and the greater the number of substances having

an antirachitic effect that are eaten, the less important are the remaining factors for the production of perfect bones. The most interesting of the actions is the calcification influence exerted by the antirachitic vitamin, which can be emphasized or antagonized by other conditions. If the diet contains a sufficiency of calcium and phosphorus, the presence of meat and the possibility of exercise makes a small amount of the antirachitic vitamin very effective. On the other hand, an excess of bread causing the animal to put on weight rapidly, combined with confinement or some special condition, such as altering the caseinogen-calcium balance, makes the antirachitic vitamin less effective. The aiding of and detracting from effectiveness by other dietetic constituents apply not only to the antirachitic vitamin, but also to other elements of diet, so that the so-called law of the minimum is inadequate to explain the problems of nutrition. The minimum of each substance for growth and perfect health varies with the amounts and kinds of other food elements eaten. The rôle of sunlight in the prevention of rickets, which was recently presented in *THE JOURNAL* (Jan. 21, 1922, p. 159), is not mentioned by Mellanby in this otherwise exhaustive investigation.

A Reward for the Discovery of a Cure for Cancer

Two wealthy men have each offered a large sum for the discovery of a cure for cancer, and this has led to correspondence on the subject in the lay press by prominent physicians. Sir William Herringham considers that the donors are actuated by the best motives, but that a safer offer was never made. Even if a cancer disappeared within the limit of time given, no one could say that it would not recur. Moreover, such offers are not the best means of stimulating discovery. Discoveries of this kind are hardly ever made by "direct frontal attack," but come, as it were, by chance, during methodical investigation into the nature of disease. Cancer has been one of the chief objects of pathologic research all over the world, as long as Sir William can remember, and \$10,000 or \$50,000 will not make pathologists work harder or give them more incentive. Discovery should be rewarded, though the just settlement of different claims must be difficult. Nearly always, the final discovery results from a large amount of work by different men. The sounder way to help discovery would be to assist the institutions already at work to carry out the expensive investigations which are nearly always hampered by lack of funds.

Sir Ronald Ross, on the other hand, supports the principle of such prizes. He points out that many subsidized laboratories and investigations have been in existence for many years. Though the work done has undoubtedly been good, the fact remains that numbers continue to die from cancer. After all, the men engaged in these researches are few compared to the 30,000 physicians of the country, many of whom could possibly join in the work. They do not, because they know that even if successful in making the most important discoveries, they will never receive any return for their labor and expenditure of time. Such prizes would bring a large number of volunteers who now cannot afford to do anything.

Compulsory Medical Examination of Schoolchildren

A point of considerable legal interest has just been settled. A father was fined for failing to comply with an order for the attendance of his daughter, aged 12 years, at an elementary school. On two occasions, presumably on the instruction of her father, she refused to submit to examination under an act which provides for medical inspection of the clothing and persons of children attending school and their cleansing if found verminous. The child was reported for insubordination and was expelled from the school. The father continued to send the girl to school, but she was

refused admittance. He was then summoned and convicted of noncompliance with the law which requires the attendance of children at school. An appeal was made to a higher court. The judges confirmed the conviction, ruling that a parent who sent his child to a school in circumstances in which he knew she would be refused admission had not caused the child to attend.

The Lowest Death Rate on Record

Provisional figures for the vital statistics of 1921 have just been issued. The death rate in England and Wales is the lowest on record and the infant mortality the lowest, except that of 1920. The birth rate is also the lowest recorded except that of the war years, 1915-1919.

FIGURES FOR 1921

	Birth Rate	Death Rate (Crude)	Deaths Under 1 Year per Thousand Births
England and Wales.....	22.4	12.1	83
Ninety-six great towns, including London*	23.5	12.3	87
One hundred and forty-eight smaller towns†	22.7	11.3	84
London.....	22.8	12.4	79

* Populations over 50,000 at the 1911 census.
† Populations from 20,000 to 50,000 at the 1911 census.

The death rate for England and Wales relates to the whole population, but that for London and the groups of towns to the civilian population only.

FIGURES FOR OTHER YEARS

	1871-1880	1911-1915	1917	1918	1919	1920	1921
Birth Rate:							
England and Wales	35.4	23.6	17.8	17.7	18.5	25.4	22.4
London.....	.....	.....	.....	16.0	18.2	26.4	22.8
Death Rate:							
England and Wales	21.4	14.3	14.4*	17.6*	13.8*	12.4	12.1
London.....	.....	.....	15.7*	14.6*	13.6*	12.6	12.4
Infant Death Rate:							
England and Wales	149	116	96	97	89	80	83
London.....	.....	108	104	108	85	76	79

* Civilians only.

The low birth rate during the war was due, of course, to the conditions then prevalent. In 1919, however, the year of booming trade and returning soldiers, the number of marriages increased greatly, with the result that in 1920 the birth rate jumped to 25.4. It has now fallen to what may be regarded as a more normal figure—22.4. The rise in the death rate in 1918 was due to the influenza epidemic.

Lister's Ward to Be Demolished

The proposal of the managers of the Glasgow Royal Infirmary to demolish the little ward in which Lister discovered the use of antiseptics is the subject of strong criticism by Dr. Kennedy, professor of surgery at Glasgow University. He has seen letters from outstanding surgeons from all parts of the world, urging the retention of this building. It is the chief asset which makes the Royal Infirmary an object of extreme interest all the world over. Quite apart from its associations with the revolution of surgery, an appeal might be made to the purely commercial instincts, that, if the ward were established as a museum for Lister relics, it would bring to the Infirmary, from all parts of the world strangers who never would dream of visiting it for any other purpose. Meanwhile, the Lister Memorial Committee, its request for retaining the ward having been rejected, has decided not to follow the suggestion put forward by the Royal Infirmary that a statue or other ornamental memorial be placed in the grounds of the Royal Infirmary. The only reason why the memorial should be in the Royal Infirmary is that the actual ward is there, and if the ward is not to be used, then there is no purpose in selecting this site for the memorial. It has been decided to spend the money on the erection of a seated statue of Lister close to

that of his friend Lord Kelvin, the great scientist, in the Kelvingrove Park, in front of the university of which he was such an ornament. Professor Kennedy hopes, however, that wiser councils will prevail and that the Royal Infirmary managers will not throw away such a valuable asset as the Lister ward, and expose themselves to world-wide contempt for having committed an unparalleled act of vandalism.

PARIS

(From Our Regular Correspondent) Feb. 3, 1922.

A Corporative Federation of the Physicians of the Paris Region

The Fédération corporative des médecins de la région parisienne has just been established. The purpose of the federation is to create a bond of union between the various medical societies in the Paris region, with a view to consecrating the great moral force that it will derive from its mere establishment to the solution of the problems of public health and to the defense of the honor and interests of the medical profession in this region—or even of one of its members, if a question of general interest is at stake. The federation also proposes to take an interest in general questions affecting the medical profession, and, in order to render aid when and where needed, will endeavor to reach a definite understanding with the various medical societies in regard to the problems that are constantly arising. The medical societies affiliated with the federation will, however, preserve their complete autonomy and their absolute independence. In no case will the federation replace them, nor will it endeavor to impose on any society the decision of a majority; it leaves them perfect freedom of action as regards their goal and their particular interests.

If the idea of the federation had been carried out in the full spirit of the founders, it would have comprised all the physicians of Paris, not only the members of the various professional groups but also the so-called "independent" physicians, who hold themselves aloof from all medical affiliations. But, after a rather lively debate, which took place at a meeting of the committee that was appointed to draw up the constitution and by-laws, it was decided that, viewing the question as a whole, there was not much use in trying to attract the "independents," and that it was reasonable to suppose that, if they did not take the trouble to affiliate themselves with any of the professional groups, they would not be any more likely to interest themselves in the questions with which the federation would deal. Then, too, the Syndicat médical du département de la Seine raised serious objections to allowing the "independents" to become members of the federation, holding that it would seriously affect the recruiting of members to fill the ranks of the syndicates. So it was finally decided that the independent physicians should not be admitted to the federation but that the membership should be composed solely of delegates appointed by the various medical societies or professional groups, some of the most important of which are: the association of professors and associate professors of the Faculté de médecine; the corporative associations of the physicians, the surgeons, the obstetricians and the specialists of the hospitals of Paris; the various local medical societies of the arrondissements of Paris, and the Syndicat médical du département de la Seine. The various associations of medical students are also admitted to membership, but students are not entitled to vote, though they may take part in deliberations. The medical societies pay an annual assessment to the federation, the amount of which is fixed each year by the general assembly. For the first year, every member of a medical society who becomes a member of the federation will pay as annual dues the sum of 50 centimes and every association of students 20 francs.

Prizes of the Academy of Medicine

As is well known, the Academy of Medicine has in its hands the awarding of numerous prizes, the conditions for the bestowal of which have been, for the most part, established by their founders and are at times rather difficult to fulfil. For example, the F.-J. Audiffred prize, which consists of 24,000 francs of income, was, according to the stipulations of the donor, to be bestowed on the person, without distinction as to nationality or profession, who, within a period of twenty-five years beginning with April 2, 1896, should have discovered a therapeutic or prophylactic remedy recognized as efficacious and sovereign in tuberculosis. The more modest prize of Baron Barbier (2,500 francs) will be awarded to the discoverer of effectual therapeutic remedies for the diseases that are recognized at the present time as most frequently incurable, such as hydrophobia, cancer, epilepsy, scrofula, typhoid, cholera, etc.

The academy holds the view, which seems justified, that, at the present time, it is very desirable and important to encourage scientific research by giving investigators material aid. It also urges persons who are contemplating establishing prizes to devote such gifts preferably to the creation of a foundation, which would bear their name, the purpose of which would be to facilitate research either along the line of a definite subject or in the field of medical science in general.

Physicians Prohibited from Selling Morphine

Dr. Labat de Lambert has been summoned before the court of correction, charged with having dispensed several ampules of morphine to certain of his patients during the course of disintoxication treatment. In spite of his protest that he acted in good faith, a fine of 500 francs was imposed. This is the first instance in which this particular phase of the application of the law controlling the dispensing of narcotics has been brought before the courts.

The Cleansing of Glassware in Restaurants

Dr. E. Briau recently presented to the Société de médecine publique an interesting communication on the cleansing of glassware in restaurants and other places where beverages are dispensed. What makes the problem rather difficult to solve is the practical impossibility of using hot water in cleansing glassware owing to the excessive loss from breakage, which with the increased cost of glass is an even greater factor than formerly; and the result has been that the demands of hygiene have been frequently disregarded for fear of undue expense arising from replacing broken glasses, etc. For similar reasons of economy, only a limited number of glasses, such as will barely suffice to serve the patronage, are put into use at one time. In certain establishments that are patronized by large numbers of people, it may happen that the same receptacle will serve as many as fifty or sixty persons during the course of the day or the evening. Under such circumstances, the only mode of cleansing commonly employed is rinsing in ordinary water. As regards beer glasses, they are not dried after being rinsed, for in order that the beer in the glass may present a good appearance it must be served in a moist glass or other receptacle. The fact that large beer glasses usually have a handle causes all right-handed persons to put their lips on precisely the same spot, and, since beer is more of a culture medium than it is an antiseptic, there is nothing to prevent the introduction of "free trade in germs" among the patrons of the establishment, whereby the mucous membranes of the mouth, pharynx and intestine may become infected. Dr. Briau became convinced by his investigations that the summary fashion in which glasses are rinsed in cold water is often of such character as to increase rather than diminish the chances of contagion. He proposes, therefore, that restaurants and other dis-

pensers of beverages be required to cleanse their glassware in two separate waters, the first to consist, in place of tepid water, of a strong solution of hydrochloric acid, which, without injuring the glassware, would destroy rapidly all the organic micro-organisms by which it might be contaminated. (The person in charge of this work should, of course, wear rubber gloves.) After being taken from the hydrochloric acid solution, the glassware should be thoroughly rinsed in running water in order that all traces of the acid may be removed. Unfortunately, there is, at the present time, no branch of the public service in France to which the carrying out of such regulations can be entrusted. The premises of restaurants are never inspected, and if occasionally they receive visits from labor inspectors, the latter are concerned only with the application of the eight-hour day to all employees. Dr. Briau proposes to the Société de médecine publique that all restaurants, cafés, etc., that are willing to carry out these regulations be given a special placard or emblem of some sort to indicate to the public that a given establishment complies with the regulations proposed and that its glassware is, therefore, clean and safe to use.

Election of Madame Curie to the Academy of Medicine

At a meeting held February 7, the Academy of Medicine elected Madame Curie a "*membre libre*" in place of Prof. Edmond Perrier, deceased. There were sixty-four votes cast for Madame Curie out of a total of eighty. Fifteen ballots were turned in unmarked, which testifies to the tenacious resistance which certain members display toward the admission of women to the academy. It is, in fact, quite significant that Madame Curie is the first woman whom France has had the privilege of honoring as an academician.

Death of Dr. Ambroise Monprofit

Dr. Ambroise Monprofit, professor of clinical surgery in the School of Medicine of Angers and surgeon to the hospitals of that city, also deputy of the department of Maine-et-Loire, died recently at the age of 65. He was the author of several works, chief among which are those on gastric surgery, gastro-enterostomy and surgical treatment of cirrhosis of the liver. After having served as deputy from 1910 to 1914, he was reelected to the same office in 1919.

BELGIUM

(From Our Regular Correspondent)

Feb. 9, 1922.

The Medical Congress in Brussels

To the entirely new undertaking that was launched by the *Bruxelles médical* I have already made reference in this column. It was the purpose of the promoters of the enterprise to organize a congress of medicine, surgery and the various specialties, which should present an entirely different character from that which we have been accustomed to see in scientific meetings of this kind. The ideal that the organizers kept before them was a practical one, the idea being to banish all theoretical discussions and long presentations which consume so much time and which interest only a few who are already familiar with the subject. On the other hand, the plan was to show as much as possible and to permit those attending the congress to see as much as possible. The organizers carried out their plan in excellent fashion, and special thanks are due Dr. Beckers, who perhaps took on himself the heaviest part of the work.

The "*journées médicales*" recently held at Brussels were indeed the most conspicuous event in the medical life of Belgium during the recent months. They brought together more than 700 physicians, drawn from all parts of the country, which is certainly no inconsiderable number when it is borne in mind that it is almost a quarter of the Belgian

medical profession. It is the first time that such a meeting has taken place here and it was in all respects a brilliant success. I have mentioned in previous letters some of the subjects that were to be discussed, so I need only add a word to bring out the essentially practical character that this meeting assumed, owing to the skilful manner in which it was organized. Every physician was at liberty to attend the clinical, surgical or laboratory demonstrations just as he saw fit and as his tastes led him. The demonstrations of the most up-to-date methods were given by the best known and the most competent authorities, who, for this particular occasion, had generously opened to the visitors all their hospital services; and herein lies the newness of the event which marks a great forward movement for Belgium.

The Campaign Against Cocain

Since the war, the consumption of coca derivatives has been steadily increasing. It is quite generally asserted that this is due to the ease with which importations can be made from Germany, where the low value of the mark as compared with that of the franc is a favoring factor. In spite of the heavy judicial penalties to which traffickers in cocain render themselves liable, the traffic in the drug continues to progress in a disquieting manner. More stringent laws against the traffic in narcotic substances in general have also been recently passed, but fears are entertained lest, being aimed mainly at practicing physicians and professional pharmacists, they may prove entirely inadequate, as far as the main purpose for which they were enacted is concerned. Physicians are not permitted to procure narcotic drugs otherwise than from a pharmacist whose shop is open to the public. Any physician, veterinarian or dentist who procures, in a given year, more than 30 gm. (462 grains) of morphin in any form (morphin, morphin salts, opium and its preparations) or 10 gm. (154 grains) of cocain or of its salts, or 5 gm. (77 grains) of heroin or of its salts must, at the request by registered letter of the inspector of pharmacies, keep a register in which he shall record all receipts and expenditures of these drugs in the same manner as is required of pharmacists. Any physician or dentist who shall have prescribed or procured exceedingly large quantities of these drugs must be able to justify his use of them before the medical representative of the Commission medicale provinciale having jurisdiction. Any physician or dentist who shall have, without necessity, prescribed or administered these drugs in such a manner as to create, keep up or aggravate a morphin, heroin or cocain habit will become liable to judicial prosecution.

Health Insurance

The political press of this country is demanding in an insistent manner the passage of legislation that will provide insurance against industrial diseases. It is urged that the victims of disease should be granted benefits just as much as the victims of accident. During the war, Belgian miners suffering from nystagmus who had emigrated to other countries were relieved from mining work in Holland and in England, and even in Germany; but when they reentered their own country they could no longer claim this privilege. This condition of affairs is very regrettable and something must be done to improve matters. Above all, the number of those suffering from occupational diseases should be reduced to a minimum. Nothing furnishes a stronger argument in favor of prophylaxis than the results that have been attained in certain industries by earnest preventive measures thoroughly studied and well worked out, in illustration of which we need only to recall the efforts to stamp out ankylostomiasis in Belgium.

In anticipation of the passage of such a law, we should (1) awaken a greater interest of employers in the conserva-

tion of human lives, urging that prophylactic measures be introduced wherever possible and that, wherever feasible, toxic products be replaced by nontoxic; (2) demand the organization of a strict medical inspection of unhealthful industries, both as to the premises and the personnel, and (3) provide for the enlightenment of workmen on hygienic subjects, since many diseases would be avoided if the workmen knew how to protect themselves against them. These are some of the things that many politically influential personages are demanding by way of urgent reform.

Spa Under State Control

Spa, our beautiful watering place, will in the future have its affairs more definitely regulated than has been the case in recent years. After vicissitudes without number that have marked for many years the life of this city from the hydrologic standpoint, the Belgian government has taken over the control of its concerns, thus supplanting the communal administration of the past. The government will maintain and improve the bathing establishments and will conserve the natural resources of the springs. Spa thus becomes the property of the state and a national hydrologic station. The government, in assuming the enormous expense involved in the management of this station in keeping with the needs of a growing clientele, will give to the facilities of this resort a national character, the value of which cannot fail to be appreciated by all physicians. "Spa-Etat," as it is now called, is therefore sure to prosper and to serve as a blessing to the many patients for whom its waters are indicated.

MADRID

(From Our Regular Correspondent)

Jan. 30, 1922.

Roentgentherapy in Gynecology

Dr. Recasens, professor of gynecology in the Madrid Medical School, gave last year in the medical school of Paris a lecture on radiotherapy in cancer of the uterus. In his inaugural speech before the Real Academia Nacional de Medicina, he reviewed again his experience with roentgentherapy applied to gynecology. After considering the theoretical foundation of roentgen-ray therapy and dwelling on the technical details, he reviewed its development in Germany, England, France and the United States, countries which he has visited to study their progress along this line. He stated that a most interesting problem in gynecologic therapeutics was the roentgen-ray dosage to be administered in order to obtain the desired effect. Radiotherapists are divided into two groups, the one favoring radiations in one large field, the other radiations in several small fields. Recasens, who has tried both technics, leans to the latter. He recalled that Professor Friedrich seemed rather fearful for the possible results when one-third or one-fourth of the body was submitted to radiation, since the blood impoverishment thus produced implies a severe derangement for the organism, which is not compensated by the time saved.

He considered in detail the different applications of roentgen rays in gynecology, as follows:

UTERINE MYOMA

He has treated some myomas so large that they filled the whole abdomen and reached to the epigastrium. All have disappeared completely under the roentgen rays, although sometimes their disappearance has taken several years. When the phenomena due to compression are marked and there are disturbances in the renal circulation, Recasens prefers surgical treatment. When there is suppurative adnexitis or pus pockets that of themselves would require an operation, it seems logical to remove the myoma at the same time. In cases of carcinomatous or sarcomatous degeneration

of the myoma, he operates, irradiating subsequently if there is a possibility that malignant elements may remain. Basing his conclusions on hundreds of cases, Recasens thinks no abdomen should be opened for myoma of the uterus until roentgenotherapy has been tried. His experience permits him to insure curability in all cases in which the treatment is not contraindicated.

METROPATHIC HEMORRHAGES

The statement made in regard to the fibromyomatous growths might be applied also to metropathic hemorrhages, i. e., hemorrhagic processes which, while not due to actual uterine lesions, become serious on account of their size. In young women, hemorrhages from the ovary are rather frequent, being caused by salpingo-ovarian processes. It is known that an adnexal inflammation has widely varying effects on menstrual function, according to its intensity. When the inflammation is not intense, no destruction occurs in the ovigenetic layer in the ovary, but the increased circulation causes hemorrhages which may be profuse. In these cases, the roentgen ray may be used with undoubted advantages, especially if, after producing the temporal or permanent castration, diathermic currents are used.

OSTEOMALACIA

In this condition also roentgenotherapy is used with success. In osteomalacia, it is common to find an excess of function in the ovary or an insufficient function in antagonistic glands, such as the suprarenals and the thymus.

CASTRATION

Professor Friedrich's experience with many dozens of cases has shown him that roentgen-ray castration is followed by serious and lasting trouble.

CANCER OF THE UTERUS

Recasens divides this condition into four groups. He says that cases so limited as to make possible a cure by removing the uterus through the vagina or through a simple abdominal hysterectomy are scarce in Spain, not reaching 5 per cent. among the many dozens of cases seen by him. These cases make up his first group. The second group comprises cancers in the borderland of operability, i. e., cervical carcinomas with slight parametric lymphatic extensions. These constitute from 6 to 7 per cent. of the total. The third group comprises absolutely inoperable cases, since the disease has already extended to neighboring organs. The fourth group is composed of cases in which, besides the local extension, the general manifestations suggest a quick and fatal termination. In the first group, Recasens favors radioactive treatment, since only once did he fail to obtain a permanent cure in this group of patients. In the second group also, he favors roentgen-ray treatment; the best operators have a mortality of 10, 12 and even 16 per cent. Among cured cases, only 50 per cent. survive after three years. In the third group, all authors advise roentgen ray and radium. In the fourth group, however, radiations might be the last stroke which would put an end to the patient's life. Recasens associates with radiotherapy, in the cases of cervical cancer, the application of a tube containing from 40 to 60 mg. of radium element. It is a fact that the number of permanent cures, i. e., those lasting over five years, in inoperable cases amounted only to 26 per cent., until a year ago, but, with the new methods of roentgenotherapy the percentage is improving, and it is expected 30 or even 35 per cent. cures, lasting over five years, will be secured.

CANCER OF THE BODY OF THE UTERUS

These cancers show such a slight operative mortality that Recasens prefers surgical removal to radiation when the circulatory condition does not contraindicate the operation.

CANCER OF THE BREAST

Recasens has obtained some remarkable cures by roentgen-ray radiation in carcinoma of the breast among women who refused to be operated on. Even so, his experience leads him in easily operable cases to advise surgery followed by roentgenotherapy, and the latter only in inoperable cases.

BERLIN

(From Our Regular Correspondent)

Jan. 20, 1921.

Injuries to Health from Hypnosis

Professor Siemerling, the psychiatrist of Kiel, referred in a recent lecture to the fact that injuries to health from hypnosis and suggestion are becoming of late extremely frequent. During the last three years, eight such cases have been observed in the *Nervenlinik* at Kiel. Three of the cases arose from attempts at hypnosis by hypnotists and magnetizers as performed for therapeutic purposes on patients with pronounced mental defects. In two cases judicial proceedings were instituted against the hypnotist. In establishing the degree of disability, it was assumed that considerable exacerbation of the condition had occurred owing to the hypnosis. It may, therefore, be definitely stated that hypnosis does not exert a therapeutic effect on patients with pronounced mental defects. In three of the cases, the fact that the patients had been actively connected with hypnotism and spiritualism was of great importance in a consideration of the origin of the psychic disturbances. In one case, a young man of 22, who had been previously in good health, developed a grave mental disorder with hallucinations and mental excitement as the result of his activities in the field of hypnosis, he having for a time endeavored to function as a hypnotist. His recovery was, however, complete. In another case, as the result of hypnotic experiments, an hysterical state of clouded consciousness was produced in a woman with a predisposition to hysteria. In a fifth case, hypnotic influences had brought about, as a suggestive effect, an hallucination of hearing. In all the foregoing cases, in the efforts to restore the normal mental condition, no hypnosis in the sense of a production of sleep had been employed, but only suggestion combined with hydrotherapeutic and electric treatment. Siemerling is cautious about committing himself in regard to the general value of hypnosis as a therapeutic remedy. Hypnotism offers in its methods and in its fundamental character no guarantee that it deserves to be preferred to other therapeutic methods. Experience does not seem as yet to offer sufficient justification for our taking up with hypnotism, a field in which exaggeration, deception and self-deception have free play. There is no subjective symptom that could not be implanted in the mind of a subject by hypnotic suggestion. In all cases of auditory hallucinations, especially when the sexual element plays a part, it is justifiable to ask whether hypnosis was necessary in order to attain the desired end. In view of the strong influence that can be exerted on a subject by a hypnotic state, it is quite out of place to employ hypnotism in order to secure evidence in judicial procedures. There are moral, medical and technical objections to making any such use of hypnotism.

Endogenous Psychoses in Relation to Posterity

Professor Rüdin of Munich, a psychiatrist and investigator in the science of heredity, published not long ago the results of his endeavors to throw light on the hereditary aspects of dementia praecox by examining the brothers and sisters of those suffering from this psychosis. Hoffmann, the Tübingen psychiatrist, pursuing a similar purpose, recently published a treatise setting forth the results of his researches on the descendants of dementia praecox patients, and it is

interesting to note that he confirms and develops further many of Rüdin's findings. The material for his investigations, which it is difficult to obtain, was placed at his disposal by the genealogic department of the Munich Institute of Psychiatric Research. Hoffmann found that 9 per cent. of the children of dementia praecox patients suffered from the same mental disorder. This fact, together with certain other findings, confirms Rüdin's assumption that dementia praecox is a hereditary disease of a recessive type having as its basis a dihybrid mode of inheritance. In manic-depressive insanity, as regards which Hoffmann's investigations were even more difficult on account of the many grades of this disorder, he found 31 per cent. of the children of patients with manic-depressive insanity also afflicted. Here, then, recessive inheritance is not to be considered, but, on the contrary, we must conclude that in all probability a dominant form of inheritance, in some form or other, must obtain. According to Hoffmann, the assumption of a dominant, sex-linked form of inheritance is not supported by the facts, in spite of the predominance of women among manic-depressive patients. Though his material is not abundant, Hoffmann considers the hereditary aspects of genuine epilepsy, also. So far as the restricted material allows of conclusions, it would seem that the hereditary aspects of epilepsy are much the same as those of dementia praecox. Hoffmann discusses also the hereditary manifestations of paranoid psychoses. In several cases of paraphrenia, paranoia and paranoid affections in the aged, he was able to demonstrate a hereditobiologic relationship with dementia praecox.

Anthropoid Apes

A few days ago, the director of our zoological garden, Professor Heck, gave a talk on the anthropoid apes which were brought to Berlin from the island of Teneriffe and to which I referred in a previous letter. In spite of the extraordinarily close relationship existing between the orang-utan, the gorilla and the chimpanzee, on the one hand, and human beings on the other, these anthropoid apes cannot be regarded, by any means, as ancestral types of man, but must be considered rather as submerged cousins of the more favored *Homo sapiens*. As Heck expressed himself, in a drastic though no less appropriate manner, the anthropoid apes stopped half way.

The heaviest gorilla brain is no heavier than that of a child, and weighs, at the most, one third that of an adult man. Whereas in man we find seventy distinct brain centers, in the anthropoid apes there are only twelve, the speech centers being entirely lacking, for which reason it is an absurdity to speak of the "ape language." Apes are, to be sure, able to give expression to certain utterances indicative of comfort or discomfort, satisfaction or dissatisfaction, but these are only what Darwin termed expressions of emotion and, at the best, can be regarded only as the first elementary step toward language formation. Whereas apes during the juvenile period show a certain resemblance to human beings, with increasing age an ever greater diversity can be noted. On the basis of anatomic findings and from comparisons with the skeleton of the Neanderthal man, Heck shows that the present-day apes cannot possibly be our ancestors. The anthropoid apes must, at a very early period, have branched off from an ancestral type common to man and owing to their arboreal habits got "stuck," as it were, thus failing to develop.

But if one wishes to become thoroughly familiar with the nature and character of apes, they must be studied also outside of a zoological garden, for here, owing to the great interest that they attract, they are likely to become "humanized" to a greater or less extent. They should be studied, if possible, in their natural surroundings.

Marriages

FAIRFAX G. WRIGHT, Chambersburg, Pa., to Miss Ida A. Gillis of New Brunswick, Canada, at Harrisburg, Pa., December 27.

HOLLAND TODD GROUND, Virginia, Minn., to Miss Doris Edwards of Albert Lea, Minn., in January.

CHARLES WALLACE THOMAS, Milton, Ore., to Miss Lucile Wolf of Illinois, January 4, at Milton.

STEPHEN GREGORY MOLLIKA to Miss Fern Allmand of Ann Arbor, Mich., at Detroit, February 11.

CHARLES ALTON RUTHERFORD, Seattle, to Miss Blanche Libby of Los Angeles, recently.

EDGAR A. POLE, Hot Springs, Va., to Mrs. Alice Clarke of Charlottesville, Va., in January.

EDWIN POST MAYNARD, JR., to Miss Virginia Mollemhauer, both of Brooklyn, February 11.

WILLIAM MURRAY ENNIS to Miss Bland G. McGady, both of Brooklyn, February 21.

Deaths

Otto Augustus Wall, St. Louis; Missouri Medical College, St. Louis, 1870; Bellevue Hospital Medical College, New York City, 1871; former professor of materia medica and therapy, Missouri Medical College, St. Louis; member of the St. Louis College of Pharmacy and the New York College of Pharmacists Association; professor of chemistry, Missouri Medical College, 1879-1882; at one time professor of materia medica and botany, St. Louis College of Pharmacy; vice president of the Convention for Revision of U. S. Pharmacopeia, 1900-1910; member of the Missouri Pharmaceutical Association and the American Pharmaceutical Association; author of "Companion to the U. S. Pharmacopeia" and a book on "Sex Worship," was found dead in bed from heart disease, February 13, aged 75.

Charles M. Wade, Sioux City, Iowa; Sioux City College of Medicine, 1898; formerly president of the Sioux Valley Medical Association; coroner of Woodbury County, 1908-1916; at one time instructor in mathematics at Morningside College; former professor of orthopedic and clinical surgery, Sioux City College of Medicine, and obstetrician to St. Joseph's Mercy Hospital, Sioux City; died, February 5, aged 53, from heart disease and cirrhosis of the liver.

Joseph Roberts Bryan, Philadelphia; University of Pennsylvania, Philadelphia, 1889; member of the Medical Society of the State of Pennsylvania; formerly member of the staffs of St. Vincent's and Misericordia hospitals; member of the Pathological Society of Philadelphia and the Philadelphia Pediatric Society; died, February 14, aged 57, at the Misericordia Hospital from complications following pleurisy.

John Bernard Voor, Louisville, Ky.; University of Louisville Medical Department, Louisville, 1913; member of the Kentucky State Medical Association; assistant director of the American Red Cross Commission in Poland; served during the World War, M. C., U. S. Army, died, February 14, aged 31, in Warsaw, from typhus contracted while on inspection duty at refugee camps in Baranow, Poland.

James Martin Peebles, Los Angeles; Philadelphia University of Medicine and Surgery, Philadelphia, 1876; also an author and pastor; member of the Indian Peace Commission, 1868; U. S. consul at Trebizond, Turkey, 1869; represented the U. S. Arbitration League at the International Peace Commission of Europe in Paris; died February 16, aged 99 years and 11 months.

Thomas Ellwood Conard \oplus Philadelphia; Jefferson Medical College, Philadelphia, 1878; formerly assistant surgeon, Wills Eye Hospital and on the staff of the Pennsylvania Hospital, Philadelphia; member of the College of Physicians of Philadelphia and the Philadelphia County Medical Society; died suddenly, February 12, aged 74, from heart disease.

Alonzo Wyatt McNeal, National Soldiers Home, Tenn.; Lincoln Memorial University Medical Department, Knoxville, 1914; member of the Tennessee State Medical Association;

\oplus Indicates "Fellow" of the American Medical Association.

served during the World War at the National Soldiers Home, Johnson City, Tenn., with the rank of captain; died recently, aged 36, at the Knoxville Hospital, from diabetes.

James Hector Mackay * Houston, Texas; Hahnemann Medical College and Hospital of Chicago, 1884; member of the State Medical Association of Texas; formerly editor of the *Homeopathic Medical Journal* published at Omaha; at one time superintendent of the Norfolk State Hospital, Norfolk, Neb.; died in January, aged 56.

Sewell Elliott Greenwood, Templeton, Mass.; Medical School of Harvard University, Boston, 1877; member and at one time president of the Massachusetts Medical Society; for more than twenty years a member of the school committee; died, February 5, aged 68, at the Henry Heywood Memorial Hospital, Gardner, Mass.

Clayton R. Truesdale, Fremont, Ohio; Chicago Homeopathic Medical College, Chicago, 1891; member of the Ohio State Medical Association; county commissioner; former president of the Chamber of Commerce; on the board of the Memorial Hospital, where he died, February 7, aged 55, from cerebral hemorrhage.

Benjamin Elisha Dawson, Kansas City, Mo.; Medical College of Ohio (University of Cincinnati), Cincinnati, 1875; Eclectic Medical University, Kansas City, 1903; also a pastor; died recently at the private hospital of his son, Canadian, Texas, following an operation for obstruction of the hepatic duct, aged 69.

Adelbert Blockford Gilliland, Cottonwood, Calif.; Chattanooga Medical College, Chattanooga, Tenn., 1894; member of the Medical Society of the State of California; president of the Shasta County Medical Association; health officer of Cottonwood; died, January 26, aged 72, from carcinoma of the prostate.

Dupuytren C. L. Mease, Freeport, Ill.; Rush Medical College, Chicago, 1884; member of the Illinois State Medical Society; president of the Freeport Trust and Savings Bank and the Stephenson County Telephone Company; died, February 6, aged 60, at Fort Myers, Fla., from heart disease.

Samuel Thompson Quick, Fort Collins, Colo.; Eclectic Medical Institute, Cincinnati, 1879; member of the National Eclectic Medical Association; formerly president of the board of directors of the Fort Collins Hospital Association; died, February 13, aged 78, from angina pectoris.

Charles Ellison Jamison, Ashbury Park, N. J.; University of Louisville, Medical Department, Louisville, Ky., 1911; member of the Medical Society of New Jersey; county physician; physician to the Neptune township public schools; died, February 8, aged 36, from pneumonia.

Hannah M. Thompson, Wilmington, Del.; Woman's Medical College of Pennsylvania, Philadelphia, 1883; formerly gynecologist at the dispensary of Delaware Hospital, and physician to the Girls' Reform School of Delaware; died, February 7, aged 74.

William Edward Ely * Ochevedan, Iowa; University of Michigan, Ann Arbor, 1885; formerly president of the Osceola County Medical Society; founded and donated the Ochevedan Public Library; died, February 12, from gangrenous appendicitis, aged 60.

Andrew D. Welker, Gambier, Ohio; Louisville Medical College, Louisville, Ky., 1872; formerly on the Gambier board of education and the town council; at one time city health officer; died, February 7, following a long illness, aged 74.

James H. Jarrett, Towson, Md.; University of Maryland, Baltimore, 1852; veteran of the Civil War; member of the Medical and Chirurgical Faculty of Maryland; at one time member of the state legislature; died, February 12, aged 90.

John Martin Bearden, Springdale, Ark.; Barnes Medical College, St. Louis, 1900; member of the Arkansas Medical Society; city health officer; died, February 5, aged 44, from tetanus following the extraction of an infected tooth.

Frederick Howard Plummer, Chelsea, Mass.; Long Island College Hospital, Brooklyn, 1892; served during the World War, M. C., U. S. Army, with the rank of lieutenant; died suddenly, February 12, aged 57, from heart disease.

Charles Henry Wallace, Philadelphia; University of Pennsylvania, Philadelphia, 1886; member of the West Philadelphia Medical Association, and the Medical Club of Philadelphia; died, February 15, from pneumonia, aged 61.

Charles Alexander Rhodes, New York City; Medical Department of the University of the City of New York,

1884; visiting physician to St. Joseph's and St. Luke's Home; died, February 14, aged 67, from heart disease.

William Carson, Shelbyville, Mo.; St. Louis Medical College, St. Louis, 1868; member of the Missouri State Medical Association; formerly vice president of the Shelby County Medical Society; died, February 10, aged 76.

David La Bau, Victoria, B. C., Canada; College of Physicians and Surgeons in the City of New York, 1880; was found dead in his office, February 12, with a bullet wound in his head, presumably self inflicted.

Charles E. Taft * Hartford, Conn.; Medical School of Harvard University, Boston, 1886; formerly on the staff of the Boston City Hospital and the Women's Hospital, New York; died, February 10, aged 58.

William O. Langdon, Hutchins, Texas; Missouri Medical College, St. Louis, 1870; former president of the medical and surgical staff at the Springfield Hospital, Springfield, Ill.; died, January 31, aged 73.

McMorris Houston, Joliet, Ill.; Hahnemann Medical College and Hospital of Chicago, 1884; formerly on the staff of the Silver Cross Hospital, where he died, February 6, aged 74, following an operation.

Stephen Kelly, New York City; Bellevue Hospital Medical College, New York City, 1871; formerly president of the Fifth National Bank, New York City; died, February 11, aged 74, from pneumonia.

Varillas Glenn Birney, Greene, Iowa; Medical Department of the University of Illinois, Chicago, 1903; served in the World War; died, February 7, aged 41, from diabetes, the result of being gassed.

James N. Metcalf * Monticello, Minn.; University of Minnesota Medical School, Minneapolis, 1906; was killed, February 12, aged 42, when the sleigh in which he was driving was struck by a train.

Ewing Van Darian Morris * Galesburg, Ill.; Rush Medical College, Chicago, 1884; president of the Galesburg Sanatorium; died, February 11, at St. Mary's Hospital, from pneumonia, aged 63.

Clifford Summer Hiddleston * Akron, Ohio; Medical College of Ohio, Cincinnati, 1883; specialized in internal medicine; died, February 15, aged 61, from arteriosclerosis and chronic nephritis.

James D. Norton, Maryville, Tenn.; Tennessee Medical College, Knoxville, 1904; member of the Tennessee State Medical Association; died, February 5, after a lingering illness, aged 46.

Robert William Forster * Lawrence, Mass.; Tufts College Medical School, Boston, 1900; member of the staff of the Lawrence General Hospital; died, February 7, aged 47, from pneumonia.

Joseph Cyrus Davis, Carlisle, Pa.; Jefferson Medical College, Philadelphia, 1875; former coroner of Cumberland County; physician to the Cumberland County Home; died, February 9.

Edmund Lee Tompkins, Fine Creek Mills, Va.; University of Virginia, Department of Medicine, Charlottesville, 1885; member of the Medical Society of Virginia; died recently, aged 59.

Guy L. McCutcheon, Buffalo, N. Y.; University of Buffalo, N. Y., 1896; member of the Medical Society of the State of New York; died, February 2, at Phoenix, Ariz., aged 49.

John Wilborn Baird, Henderson, Tenn.; Vanderbilt University Medical Department, Nashville, 1875; formerly county health officer; died, February 10, from pneumonia, aged 68.

William Henry Myers * Sheldon, Iowa; Rush Medical College, Chicago, 1882; owner of the Myers Hospital; president of the board of education; died, February 8, aged 64.

William A. Rice, Louisa, Ky.; Louisville Medical College, Louisville, 1890; member of the Kentucky State Medical Association; died, February 7, from pneumonia, aged 62.

Howard T. Irvine, Austin, Texas; University of Manitoba Faculty of Medicine, Winnipeg, Canada, 1909; died, January 4, aged 38, at Rochester, Minn., from arteriosclerosis.

Shelton Alvin Ramsey, Drew, Miss. (license, Mississippi, 1909); died, February 5, at St. Joseph's Hospital, aged 32, from pneumonia, resulting from a gunshot wound.

Andrew C. Fisher, Emmerton, Va.; Medical College of Virginia, Richmond, 1885; member of the Medical Society of Virginia; died, February 7, from pneumonia.

Reuben Pearce Tye, Chickasha, Okla.; Kentucky School of Medicine, Louisville, 1886; formerly surgeon for the Rock Island Railroad; died, February 9, aged 70.

Frederick Robert Farthing, Boone, N. C.; Jefferson Medical College, Philadelphia, 1921; died, February 14, aged 27, from pneumonia, at St. Joseph's Hospital.

Trueman A. Beeman, Bancroft, Ont., Canada; Queen's University Faculty of Medicine, Kingston, Ont., 1887; died, February 9, aged 59, from heart disease.

Jules Baron, Herculaneum, Mo.; St. Louis Medical College, St. Louis, 1881; formerly coroner of St. Louis; died, February 14, aged 62, from heart disease.

Willis Harris Pope, Trinity, Texas; Dallas Medical College, Dallas, 1904; member of the State Medical Association of Texas; died, February 9, aged 63.

Whitney A. Taylor, Broadtop, Pa.; Eclectic Medical College of Pennsylvania, Philadelphia, 1879; died, January 31, from cerebral hemorrhage, aged 66.

Clinton D. Woodruff, Reed City, Mich.; Buffalo College of Rational Medicine, Buffalo, N. Y., 1881; veteran of the Civil War; died, February 9, aged 89.

Charles Henry Tindall * Yuma, Ariz.; Chattanooga Medical College, Chattanooga, Tenn., 1905; aged 45, was recently killed in an automobile accident.

Christian Johnson * Everett, Wash.; Washington University School of Medicine, Baltimore, 1874; died, January 2, following an operation, aged 68.

S. Ellen Rourke, Lincoln, Ill.; Keokuk Medical College, Iowa, 1896; formerly a school teacher; died, February 9, at St. Clara's Hospital, aged 55.

Jesse Franklin Stong, Barada, Neb.; Keokuk Medical College, College of Physicians and Surgeons, Keokuk, Iowa, 1900; died recently, aged 47.

James William Flow, Kannapolis, N. C.; North Carolina Medical College, Charlotte, 1898; died, February 8, aged 44, from chronic nephritis.

Charles S. Vance, Cisco, Texas; College of Physicians and Surgeons, Baltimore, 1875; died, February 10, from acute indigestion, aged 74.

James M. Curran, Cross Roads, Pa.; Maryland Medical College, Baltimore, 1900; died, January 7, aged 60, from angina pectoris.

Albert J. Fraleigh, Toronto, Ont., Canada; Trinity Medical College, Toronto, 1904; died, November 26, aged 46, from diabetes.

James H. West, Springfield, Ohio; University of Louisville, Ky., 1873; died, January 2, from cerebral hemorrhage, aged 83.

J. O. Clark, Downingtown, Ohio (license, Ohio, 1896); served two terms in the state legislature; died, February 4, aged 83.

Leland Walker, Washington, D. C.; Hahnemann Medical College and Hospital of Chicago, 1868; died, February 5, aged 96.

William H. Belt, Oswego, Kan.; University of Louisville, Louisville, Ky., 1870; died, February 5, aged 75, from pneumonia.

Addison J. Collver, Otterville, Ont., Canada; Victoria University Medical Department, Victoria, 1862; died, December 2.

John Andrew Hershey, Owen Sound, Ont., Canada; University of Toronto, Ont., 1892; died, November 21, aged 54.

Isaac W. Hewlings, Moorestown, N. J.; Jefferson Medical College, Philadelphia, 1869; died, February 8, aged 74.

Stephen S. Campbell, Memphis, Tenn.; Memphis Hospital Medical College, 1901; died, February 8, aged 58.

J. William Tibbels, Ranger, Texas; American Medical College, St. Louis, 1883; died, November 26, aged 71.

William L. Crowder, Oskaloosa, Iowa; Rush Medical College, Chicago, 1870; died, February 9, aged 81.

Thomas Stanley Orr, Hamilton, Ont., Canada; University of Toronto, 1908; died recently, aged 50.

Correction.—The report of the death of Dr. George H. Gorham, Boston, printed in the February 18, issue of THE JOURNAL is incorrect. It was an error in duplicating for Dr. George H. Gorham, Bellows Falls, Vt., who died, November 28, and whose notice appeared December 24.

The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE JOURNAL'S BUREAU OF INVESTIGATION, OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER GENERAL MATERIAL OF AN INFORMATIVE NATURE

HALE'S EPILEPTIC RELIEF

"Hale's Epileptic Relief," "manufactured exclusively by" the "Dr. Hale Laboratories," 9 East Walker Street, New York City, has been brought to the attention of the public through the advertising pages of certain cheap weeklies. According to these advertisements, Hale's Epileptic Relief is "prescribed by the best New York specialists," it "cures fits and epilepsy," a "\$1.50 bottle" is sent free.

Those who answered the advertisements received a 4-ounce bottle of a brown liquid and a small package of tablets. They also received a form-letter from "Dr. Hale Laboratories," stating that "a bottle of Hale's Epileptic Relief, together with a sample box of Hale's Liver Tablets," was being sent. The stationery on which the form-letter was printed bore, in the upper left-hand corner, a picture of a substantial looking business block, seven stories high. According to the legend under this picture, this building constituted the "Laboratories and Offices" of the concern. A commercial agency reported that the proprietor of "Dr. Hale Laboratories" was apparently



Photographic reproduction of a typical advertisement of "Hale's Epileptic Relief."

one O. C. Hoyt who had desk room at 9 and 11 Walker Street, but who was never at his desk when the reporter of the agency called to see him.

In the first form-letter sent out to those who write for the free sample the concern says:

"We would be pleased at any time to have you visit us when you come to New York and go through our laboratories and offices."

In order to obtain a better idea of the equipment of this concern, the help of a resident of New York was enlisted who visited the "Laboratories and Offices" at 9 and 11 Walker Street. The visitor reported that at this address there was an old-fashioned building with freight and passenger entrance all in one. The entrance had no directory of the building, but there was a line of, perhaps, six metal mail-boxes; the freight lined up in front of these boxes made it impossible to see who or what they represented. The elevator man, in answer to an inquiry for the Hale Laboratories, took the visitor to the third floor. This was found to be a warehouse with cases and boxes piled high, but with no sign or lettering of any kind visible. The only person on the floor was a woman, who, when asked for the manager or person in charge, pointed to herself and said, "That's me!" When asked if the president or vice president was in, she replied that he was not, but that he might possibly be in the next afternoon. Asked the name of the president, the woman said "Hoyt."

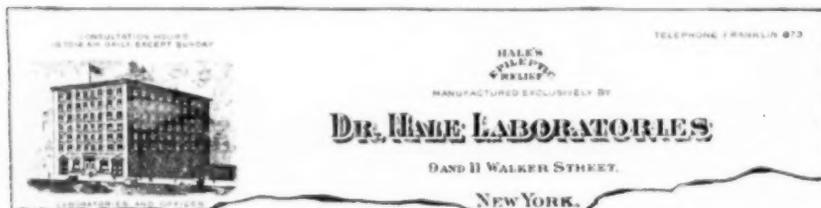
One side of the floor of this warehouse-like place was partitioned off into offices. Outside of this partition was a small desk room, apart from the rest, to which the woman in charge motioned when she spoke about the "president." No other person was in sight and, in answer to the inquiry, the woman said she was alone in this place. In answer to

another inquiry, the woman stated that the concern manufactured an emulsion and an epilepsy cure.

So much for the difference between the mental picture conjured up by the advertising matter of the Dr. Hale Laboratories and the facts. The booklet sent out by this concern states that Hale's Epileptic Relief is the formula of a "well-known New York specialist in nervous disorders." A specimen bottle of Hale's Epileptic Relief (alcohol 7 per cent.) and some "Hale's Liver Tablets" were turned over to the Association's Laboratory with the request that the bromid content of the epilepsy nostrum be estimated. The Laboratory report follows:

CHEMICAL REPORT

"One bottle labeled 'Hale's Epileptic Relief' was submitted to the Chemical Laboratory for an estimation of the bromid content. The bottle contained about 4 fluidounces of a brown colored fluid, having an aromatic odor and a salty taste. Qualitative tests showed the presence of ammonium, potassium, sodium and bromids. Iodid was not found. Calculating from the quantitative haloid determinations, 100 c.c. of the liquid contains bromids equivalent to 20.73 grams of potassium bromid. Therefore each teaspoonful (one dose) contains



Photographic reproduction (reduced) of the letterhead of the "Dr. Hale Laboratories." Note the imposing picture of the alleged "Laboratories and Offices," and compare with the word picture given by an investigator.

essentially 13 grains of potassium bromid and each daily dose (4 teaspoonfuls) is equivalent to 52 grains of potassium bromid.

"Accompanying the bottle, was a small package of laxative pills. These were found to contain emodin-bearing (laxative) drugs—possibly aloes."

A bromid mixture; the usual combination of the mail-order epilepsy quack.

MORE MISBRANDED NOSTRUMS

Abstracts of Recent Notices of Judgment Issued by the
Bureau of Chemistry of the United States
Department of Agriculture

Krause's Phosphorets.—In June, 1920, the Norman Lichty Mfg. Co., of Des Moines, Iowa, shipped a quantity of "Krause's Phosphorets" to Chicago. The product was declared misbranded by the federal authorities. When analyzed by the chemists of the Bureau of Chemistry, the preparation was reported to consist essentially of ferrous (iron) carbonate, asafetida and traces of phosphorus. Among the claims that appeared on or in the trade package were:

"Will cure all diseases arising from a shattered condition of the nervous system, or the exhaustion of the vital energies of the brain from overwork, worry, dissipation, excesses or overindulgence of any kind . . . successful in the treatment of nervous debility, dizziness, despondency, paralysis, neurasthenia . . . ringing noises in the head, lack of energy or ambition, . . . muscular weakness, shortness of breath . . . pain in the back, loss of memory, indecision, sciatica, early decay, rheumatism, hysteria, wasting diseases, . . . restore the blood to its normal condition, throw off the impurities and overcome diseases infesting the system."

"They will . . . cure . . . spermatorrhea . . . drains of the prostatic fluid."

These claims were, naturally, declared false and fraudulent. In April, 1921, judgment of condemnation and forfeiture was entered and the court ordered that the product be destroyed.—[Notice of Judgment No. 9413; issued Oct. 24, 1921.]

Binz Bronchi-Lyptus.—In March, July and October, 1920, Edward G. Binz, Los Angeles, shipped to St. Louis a quantity of this product which the federal authorities declared misbranded. When analyzed by the Bureau of Chemistry the stuff was reported to consist of a solution containing essen-

tially oils of eucalyptus and peppermint, glycerin, sugar, gum acacia, alcohol and water. The stuff was labeled in such a way as to make the purchaser believe that the product was an efficient remedy for croup, whooping cough, sore throat and loss of voice, and palliative in tuberculosis coughs. These claims were declared false and fraudulent. In April, 1921, judgment of condemnation and forfeiture was entered and the court ordered that the product be destroyed.—[Notice of Judgment No. 9425; issued Oct. 24, 1921.]

Dr. Goodwin's Herbal Compound.—In February, 1920, Frank A. Goodwin, trading as "Dr. F. A. Goodwin," Chicago, shipped a quantity of this product from Illinois to Missouri. The Bureau of Chemistry reported that analysis of a sample of "Goodwin's Herbal Compound" showed it to consist of a light-brown mixture of powdered plant material containing chiefly senna, fennel, uva ursi (bear-berry) and unidentified plant extractives. Claims, on or in the trade packages, recommended the stuff as an effective treatment, remedy and cure for ailments, disorders and diseases of the stomach, liver, kidneys, nerves, bowels, bladder and the blood, etc. These claims were declared false and fraudulent. In April, 1921, Goodwin pleaded guilty and was fined \$100 and costs.—[Notice of Judgment No. 9462; issued Oct. 29, 1921.]

Dubois Peficic Pills.—A quantity of "Dubois Peficic Pills" consigned by W. J. Baumgartner of Detroit was shipped from Michigan to Washington in March, 1921. The federal chemists reported that analysis showed the pills to consist essentially of aloes, ferrous sulphate (copperas), calcium carbonate (chalk) and sugar. The stuff was declared misbranded because the pills were claimed to be "purely vegetable" which the analysis shows was an obvious falsehood. Furthermore, the pills were claimed to be a "reliable female tonic and regulator of menstrual disturbances and for relieving general female disorders," etc. These claims were declared false and fraudulent. In June, 1921, judgment of condemnation and forfeiture was entered and the court ordered that the product be destroyed.—[Notice of Judgment No. 9468; issued Oct. 29, 1921.]

4-11-44 Capsules and Injection.—In June, 1919, A. J. Benson, Pottsville, Pa., shipped a quantity of these products to Ohio. The federal chemists reported that examination of the "capsules" showed them to contain cubeb, copaiba and small amounts of magnesium oxid and alum. They were falsely and fraudulently labeled, in part:

"Causes No Stricture."

"Safe And Speedy Compound For Clap, Gonorrhoea, Gleet Or Any Discharge From Urinary Organs Warranted A Sure Relief For Clap, No Matter How Long Standing, In A Few Days."

The chemists reported that the "Injection" was a solution of zinc sulphate and salt in water. This product was falsely and fraudulently labeled, in part:

"Nature's Marvelous Remedy which invariably relieves Clap, Gleet or any discharge from the Male Genital Organs. A Positive Relief from these Diseases in all stages."

In July, 1920, judgment of condemnation and forfeiture was entered and the court ordered that the product be destroyed.—[Notice of Judgment No. 9551; issued Dec. 10, 1921.]

Metzger's Catarrh Remedy and Spede Oil.—In April, 1919, and March, 1920, George Franklin Metzger, trading as the Metzger Manufacturing Company, Bethlehem, Pa., shipped a quantity of these two products into the state of Ohio.

The so-called "catarrh remedy" was reported by the Bureau of Chemistry to consist essentially of iodid, a mercuric compound, gentian, 43 per cent. of alcohol and water. It was falsely and fraudulently represented as an effective treatment, remedy and cure for catarrh of the nasal cavity, eye, ear, throat, stomach, bowels, bladder, lungs, womb, small intestines, etc.

"Spede Oil" was reported by the federal chemists to consist essentially of gasoline, oil of eucalyptus, methyl salicylate, menthol, camphor and ether. This product was falsely and fraudulently represented as an effective treatment, remedy and cure for gout, pleurisy, headache, lumbago, chilblains, frozen feet, weak ankles, hay-fever, itching piles, blood poisoning and a few other things. In June, 1921, Metzger entered a plea of *nolo contendere* and was fined \$10.—[*Notice of Judgment No. 9547; issued Nov. 24, 1921.*]

Correspondence

SCARCITY OF PHYSICIANS

To the Editor:—In THE JOURNAL, February 11, page 436, you state that there is no shortage of physicians in the United States but you lament the fact that there is a scarcity of physicians in rural communities. As a reason, the fact is given that young graduates would rather stay in the cities because of lack of diagnostic facilities in the average rural community. I have practiced medicine in a rural community all my life, and I believe I know enough of the psychology of the rural community to dispute this reason.

There are more than enough physicians to supply all rural demands who would gladly leave the city, were they assured a fair remuneration for their time. It is my opinion from personal experience that the only reason rural communities have no physicians is that the communities will not give the financial support necessary for a physician to exist and educate a family. There are other contributory causes, but the main cause is nonsupport. The encroachment of the physician from the larger town on that of the smaller place is an evil, but the people of the small community should not complain, because they have the remedy in their own hands. In one place I know of the people needed a physician very badly, but they could not get one to stay. About twenty-five of the most influential citizens contributed \$100 each, making a guarantee of \$2,500 a year if the physician would stay in town. They secured one, and then canvassed the community and were able to get every one in the community financially interested in the guarantee. It is wonderful how quickly the psychology of the situation changed. The guarantee was for a term of five years, and the physician informs me that he does an average business of \$300 a month and, his five years being about up, he has already had enough signers to guarantee his staying another five years.

All this propaganda which is being thrown to the public about certain diseases not being successfully handled and treated in rural communities by rural physicians is buncombe. Venereal disease can be diagnosed and treated just as successfully in a small village, or out in a country home for that matter, as it can in the largest city in the world, and is being just as successfully treated today in the country as it is by the most popular specialist in the city.

I do not wish to be considered a knocker against specialism, but against the methods which are being used to advertise the city physician at the expense of the physician who would rather practice in a rural community than in a city, but is deterred by this advertising, which belittles the intelligence of rural physicians as well as rural communities. Magazines and newspapers laud the equipment of certain physicians, and the public believes they are great physicians. When all the camouflage is removed we shall probably find that the real benefit is not therapeutic, except for its psychologic effect on the patient. Soon the country, or, as commonly called, rural physician finds that all his patients have gone to the city to get the advantages of the methods which are lauded. If many of our city brothers in the profession ran up against some of

the problems we of the country encounter almost every day, they would not be so free with their criticisms against the rural practitioner. The worst thing that can befall the medical profession is the passing of the rural physician.

T. H. LINE, M.D., Central City, Neb.

USE OF THE WORD "MORON"

To the Editor:—I was interested in your reply to the inquiry of Dr. Edward A. Foley (THE JOURNAL, Jan. 7, 1922, p. 59), who had requested information with regard to the derivation and use of the word "moron." The word did not come into use until 1910, when it was suggested by the American Association for the Study of the Feebleminded. It is of interest to know, in this tercentenary of Molière, that the dramatist used the word as a name for one of his characters (the court fool) in the five act play, "La Princesse d'Elide," which was played in 1665 before Louis XIV in a series of entertainments that have had few equals since antiquity. In this play Molière enacted the rôle of Moron. I am under the impression that Molière coined the word and used it for the first time in the manner I have mentioned.

ROBERT W. GIBBES, M.D., Columbia, S. C.

SPIRITUALISM IN TREATMENT OF DISEASE

To the Editor:—A rather insidious propaganda for the use of spiritualism in the treatment of physical diseases has crept in among a certain class of unfortunate and neurotic members of my practice. The spiritualistic method of treatment does not completely exclude medical care, but I am somewhat alarmed at the tendency toward a morbid mental attitude of a few of my patients who are worthy of better things in life, but who happen to have been denied a type of liberal education which would have given them a better balance in meeting such problems of seeming interest and allurements.

A. B. SHOEMAKER, M.D., North Attleboro, Mass.

"THE EARLIEST MAN AND THE LATEST DISEASE"

To the Editor:—In the editorial comment on "The Earliest Man and the Latest Disease" (THE JOURNAL, Feb. 25, 1922, p. 586) you say: "There can surely be little justification in attributing dental caries and alveolar abscesses to modern civilization, overcooked foods or too much candy, in view of the testimony of our earliest known ancestor." In your comment, as well as that of others relative to the Rhodesian man, it appears that this skull "has many points of resemblance to or even identity with the skull of modern man." I think it is quite widely accepted that in the process of evolution those creatures that were able to adapt themselves to the changes which occurred in their environment survived, while those that were unable to adapt themselves became extinct.

In the case of the Rhodesian man, it would appear that his points of resemblance to modern man might be taken as an indication that he possessed sufficient intelligence and adaptability to survive up to and into an environment in which he acquired food habits and other modifications which tended to the breaking down of his natural immunity to caries of the teeth; while the Neanderthal man, although he may have lived in a later age, did not possess the intelligence necessary to the adoption of a more complex style of living, or the adaptability to survive the changes that took place in his surroundings.

Modern man first used his intelligence to invent civilization with all its complexities, including candy, refined sugar

and denaturized cereal foods, and then began to seek ways and means whereby he might repair his failing dentures, and thus modern dentistry was born. In former times, changes of environment were much slower than at present, and man was able to adapt himself fairly well; but during the last hundred years we have been going at such a rate that it seems questionable whether we shall be able to survive permanently, even with the development of modern medicine and dentistry.

In the practice of Orthodontia, I see evidence daily indicating that at present man is on the road to becoming a toothless race unless we can induce a return to a simpler manner of living—and that seems improbable, indeed.

L. H. WIRT, D.D.S., South Bend, Ind.

"ECHTMAN'S RHINOPULMONARY REFLEX"

To the Editor:—In regard to Echtman's rhinopulmonary reflex (*THE JOURNAL*, Feb. 11, 1922, p. 451), I wish to call attention to the fact that in an article which I published in the *Medical Review of Reviews* in October, 1914, under the title "What the General Practitioner Should Know in the Specialty of Ear, Nose and Throat," I said: "When an examination of the chest reveals bronchial breathing in a small area in the third and fourth interspace, nasal obstruction must be considered before pronouncing him or her tuberculous."

MAX LUBMAN, M.D., New York.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS and queries on postal cards will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

PHYSICIANS AND THE INCOME TAX

To the Editor:—Last summer I attended a congress of ophthalmology and did some work in Vienna. Kindly inform me whether or not I can deduct any part of this expense from my income tax.

C. L. LARSEN, M.D., St. Paul.

ANSWER.—Expenses incurred in graduate medical work are not deductible.

To the Editor:—1. Referring to the statement in *THE JOURNAL*, February 4, that "all persons whose net income for 1921 amounts to \$1,000 or over must file returns," is not this an error? 2. Also, page 374, under transportation you say: "If the car is sold, the price received is an addition to the physician's income for the year." This also seems in error. What is there about an automobile to class it as separate from other property?

CHARLES WENDELKEN, M.D., Corpus Christi, Texas.

ANSWER.—1. This question has already been answered several times in *THE JOURNAL*. An income tax return must be filed by every citizen whose gross income amounts to \$5,000, or whose net income amounts to \$1,000 if single or \$2,000 if married.

2. The rule regarding automobiles is the same as that governing real estate. A physician buys a car for a certain amount, which amount is regarded as an investment and not as an expense. He is entitled each year to deduct a certain amount for depreciation. The value of the car to the physician on his books at any time is the original cost to him, minus the amount of depreciation since the time of its purchase. If the physician sells the car for more than the book value of the car to him, then he has made a profit, which profit should be added to his income. If he sells the car for less than its book value, then he has lost money and the amount lost should be deducted.

Example: A physician buys a car in January, 1918, paying \$1,600 for it. In his income tax returns for 1918, 1919 and 1920 he charges off \$200 a year for depreciation, or \$600 in all. July 1, 1921, he sells the car, which has a book value to him at the time of sale of \$900 (\$1,600 original cost, minus \$700 depreciation). If he sells the car for more than

\$900, the difference between this amount and the selling price is a profit and should be added to his income. If he sells the car for less than \$900, he has lost money and can deduct the difference between \$900, the book value of the car, and the selling price.

INDICAN REACTION

To the Editor:—In making a test for indican by Obermeyer's reagent in a specimen of urine of a woman who was confined about three weeks ago and is now suffering from the grip, I am getting a red chloroform instead of the usual indican color. The urine is otherwise normal, chemically and microscopically. I have examined thousands of specimens of urine, but I never saw the color red instead of indican blue. Please explain the reaction, in *Queries and Minor Notes*.

L. G. WILLE, M.D., New Braunfels, Texas.

ANSWER.—In the decomposition of protein occurring in the intestinal canal, indol and skatol are found among the products of this bacterial cleavage. These substances are absorbed and oxidized in the blood to indoxyl and skatoxyl, which are then conjugated with sulphuric acid, forming indoxyl and skatoxyl sulphuric acids, after which they are excreted in the form of the potassium salts, indoxyl potassium sulphate (indican) and skatoxyl potassium sulphate. Hence, whenever the urine is tested for indican by Obermeyer's test, a certain amount of the skatoxyl compound which is always present will lead to the formation of a red coloration, although it does not ordinarily show up as it is obscured by the blue color of the indican, which is usually in excess. However, in some cases, for reasons not well understood, the skatoxyl potassium sulphate appears in the urine in excess of the indican, so that the Obermeyer test may give distinct red colorations of the chloroform instead of the usual blue. Just what pigment causes these red variations is doubtful, but it has received various names, as, for instance, indigo-red, skatoxyl-red, uro-rubin and uro-rhodin. Whatever it may be, it apparently has the same significance as does the excretion of an excess of indican. Furthermore, if the patient has been taking an iodid, its excretion in the urine will lead to a red coloration of the chloroform on the application of the Obermeyer test. To differentiate this coloration from that produced by an excess of skatoxyl potassium sulphate, add a small amount of a solution of sodium thiosulphate (hyposulphite) and shake. The red coloration due to the iodid will disappear, while that due to the conjugated skatoxyl potassium sulphate will be unaffected. It should also be borne in mind that certain drugs also give a violet or blue coloration to urine with Obermeyer's reagent, which invalidates the indican reaction.

COLLOSOLS—BRITISH COLLOIDS LIMITED

To the Editor:—You have before referred to the "Collosol" concern and products. They now advertise "Collosol" remedies for widely varying conditions, ranging from venereal troubles to carcinoma, rheumatoid arthritis, Hodgkin's disease, pyorrhea, tuberculosis, and the promotion of the growth of hair. I hand you herewith a booklet just received, wherein Sir Malcolm Morris, Mr. J. E. R. McDonagh, the latter's house surgeon and other advanced scientists extol the virtues of Collosol Argentum.

Are the preparations in question true colloidal suspensions? An original bottle of Collosol Sulphur recently purchased shows a heavy deposit and is evidently not a colloidal suspension, and dispensing chemists [druggists] tell me that this occurs with other "Collosols."

Do substances in the colloidal state possess, as alleged, some unique and mysterious therapeutic virtue not exhibited in ordinary solution or the "crystalloid" form?

Please do not mention my name.

—, London, England.

ANSWER.—"Collosols" is the trade name applied to certain alleged colloidal preparations of drugs made in the "Crookes Laboratories by British Colloids Limited," London. The Collosols are recommended for external, internal, intramuscular and intravenous administration. A few years ago, the Council on Pharmacy and Chemistry investigated the "Collosol" products. In common with the experience of our correspondent, several of the specimens submitted to the Council were found to contain precipitates and thus were not colloidal at all. True colloidal solutions should contain the active substances in a uniform microscopic suspension and be free from precipitates. Commenting on the presence of the precipitates, the Council pointed out that if "injected intravenously, as directed, death might result, making the physician morally, if not legally liable." In the cases in which the therapeutic claims for "Collosols" were examined, the claims were found to be either exceedingly improbable or exaggerated. Furthermore, the A. M. A. Chemical Laboratory found, on analysis, that "Collosol Cocain" contains only 40 per cent. of the claimed amount of cocain. This product seems to be no longer advertised.

In glancing through the "Collosols" advertising "literature," one is struck with the frequently recurring references to enthusiastic reports by Sir Malcolm Morris, K.C.V.O., F.R.C.S.E. This medical knight, who, we understand, has nominally retired from practice, during the last few years seems to have devoted his energies to the exploitation of "Collosols," and is reported to be one of the directors of the "Collosols" concern. The manufacturers of "Collosols" undoubtedly find such a distinguished proponent of their products of large commercial value.

The most recent addition to the "Collosol" collection sponsored by Sir Malcolm Morris is that of calcium. This time the published article (*British Medical Journal*, January 14) is by E. E. Prest, who, in his conclusion, expresses "thanks to Sir Malcolm Morris for the interest he has taken and the encouragement he has given me during this investigation"!

No scientific evidence has been presented to show that the therapeutic values of water soluble drugs are enhanced by administration in colloidal form. It is true that in the case of certain insoluble substances—such as metallic silver and its insoluble combinations—the fine state of subdivision inherent to the colloidal state may permit application for therapeutic measures and therefore may be of value. Previous discussions in THE JOURNAL on "Collosols" are:

- Ferrivine, Intramine and Collosol Iodine, Sept. 8, 1917, p. 841.
- Collosol Cocaine Not Admitted to N. N. R., April 12, 1919, p. 1094.
- Collosol Manganese, Queries and Minor Notes, May 3, 1919, p. 1318.
- Collosol Preparations, June 7, 1919, p. 1694.
- Collosols: An Uncritical English Endorsement, editorial, Oct. 18, 1919, p. 1218.

Publication of the investigations of the Council on Pharmacy and Chemistry and the A. M. A. Chemical Laboratory in THE JOURNAL have apparently had an effect. The "Collosols" are not pushed in the United States today, although they are heavily advertised in the British Isles. As THE JOURNAL said, editorially, in discussing "Collosols," Oct. 18, 1919:

"Just so long as the English profession will not protect itself by creating a competent board to examine and judge proprietary medicines and to control methods of exploitation, just so long will such extravagant and even cruelly misleading claims continue to impede scientific progress in therapeutics."

WIDAL TEST—INTESTINAL AMEBAS

To the Editor:—1. Please describe the method of preparing and sterilizing suspensions of *Bacillus typhosus* to be used in making the Widal test.

2. Do Widal reactions made with permanent sterilized suspensions give as reliable results as obtained by using fresh, living organisms?

3. Please describe the method of examining for intestinal amebas—fresh method and method for permanent mount.

Please omit name and address if printed in Queries and Minor Notes.
S. A. H.

ANSWER.—1. Cultures of the typhoid bacillus are made on agar slants, the twenty-four hour growth being then scraped off with the aid of a platinum needle and suspended in physiologic sodium chlorid solution. The bacilli in this suspension are then killed by heating for one hour at a temperature of 60 C., or by the addition of such bactericides as formaldehyd, phenol (carbolic acid) or thymol. The best method of preparing these suspensions is, perhaps, that of Hastings, which consists of a mixture of 5 c.c. of 5 per cent. phenol, 10 c.c. of glycerin, and 85 c.c. of 0.9 per cent. sodium chlorid solution, to which are added the organisms scraped from the surface of two twenty-four hour agar slant cultures of *Bacillus typhosus* (the bacilli being rubbed into the mixture with a spatula).

2. Widal reactions, made with the permanent sterilized suspensions of typhoid bacilli, give reliable results and have the advantage that the worker does not require an incubator, culture mediums or a microscope if he obtains his suspensions from a well equipped laboratory. Naturally, the macroscopic method must be employed with these killed suspensions, so that slight clumping of the bacilli may escape detection. When possible, the Widal test should be made with live active cultures rather than with the killed suspensions, as the reactions are sharper and, hence, have a tendency to be more reliable.

3. In examining the stool for amebas, one should be careful to obtain a proper type of stool. Such stools are thin and watery, containing mucus, blood and occasionally many pus cells. Portions of the mucus should be picked out and submitted to direct examination on a warm stage under a high magnification. If the stool is fresh and still warm, it is pos-

sible to obtain the characteristic "ameboid" motion. Musgrave and Clegg advise the administration of a saline cathartic and the later examination of the fluid portions of the stool for the amebas. Frequently, one may obtain better specimens for examination by examining mucus that is obtained with a rectal tube.

If one wishes to stain the preparation, the method of Darling gives good results. The dried smear is stained with Wright's stain in the usual way, followed with Giemsa's stain until the film has a purple cast. Then the slide is plunged into 60 per cent. alcohol to which from 10 to 20 drops of 10 per cent. ammonia have been added. Differentiation is continued in this way until the film has a violet color, when it is dried and examined. Donaldson advocates the use of a mixture of equal parts of (1) 5 per cent. aqueous solution of potassium iodid saturated with iodin, to which an equal volume of ether is added, and (2) a saturated aqueous solution of rubin S or of eosin. A loopful of the thin feces mixed with a few loopfuls of the foregoing mixture is placed on a glass slide and covered with a clean cover-glass.

FAT IN CALCIUM METABOLISM

To the Editor:—Please inform me through Queries and Minor Notes what rôle fat plays in calcium metabolism. Is it essential? Kindly omit my name.
MEDICUS, TEXAS.

ANSWER.—Several clinical researches have been published recently which bear more or less directly on the importance of fat in the absorption and metabolism of calcium by the body. Holt, Courtney and Fales, at the Rockefeller Institute, have shown that in infants the absorption of calcium varies with the intake, the fat content of the food being presumably the same in the thirty-three cases reported on. Findlay, Paton and Sharpe also found that the "utilization" (meaning the difference between the intake in the food and the excretion in the feces) "tends to vary directly with the supply in the food," whereas the last mentioned investigators state that an increase of milk fat does "not decrease the utilization of calcium in either normal or rachitic children," as asserted by some. Holt, Courtney and Fales state definitely that in infants the absorption of calcium varies with the amount of fat given, optimal absorption taking place when from 0.045 to 0.060 of calcium oxid was present in the food for every gram of fat with a total fat intake of not less than 4 gm. per kilogram. In children from 1 to 7 years of age, absorption of calcium was less dependent on the intake of fat of either animal or vegetable origin. No detailed account of the experiments was given which lead the authors to these conclusions. Telfer reports that an increase from 21.6 to 43.2 gm. of milk fat per day does not change the absorption of calcium in the body. For a more detailed account with bibliography, see:

Holt, L. E.; Courtney, A. M., and Fales, H. L.: Calcium Metabolism of Infants and Young Children, and the Relation of Calcium to the Fat Excretion in the Stools, *Am. J. Dis. Child.* 19: 97 (Feb.) 1920; 19: 201 (March) 1920.

Findlay, Leonard; Paton, D. N., and Sharpe, J. S.: Studies in Metabolism of Rickets, *Quart. J. Med.* 14: 352 (July) 1921.

Telfer: *J. Physiol.* 54: 105, 1920-1921.

New York State Records Its Lowest Death Rate.—The death rate of New York state for the year 1921 reached the new low level of 12.2 per thousand population, according to the statistics of the division of vital statistics of the state health department. For the year 1914 the rate was 14.7, and for 1920 it was 13.8. In terms of lives saved, the rate for 1921 means that approximately 16,000 more residents of the state are now living than would be the case if the death rate had not been reduced as indicated. New York City, with a death rate of 11.2, still retains its lead over the remainder of the state. In the up-state area, it is also of interest to note that the 1921 rate in cities was 12.6, as against 13.5 for the rural area. Commenting on these statistics, the health commissioner, Dr. Hermann M. Biggs, says: "Modern standards of public health administration in the state service and in the cities and other municipalities have unquestionably contributed in large measure to the gratifying result in the saving of lives, though it would be inaccurate not to take note of other great factors, such as the gradual improvement in living conditions and the general advance in education and intelligence. Broadly speaking, the reduction in death rate is a true index of progress in civilization."

Medical Education, Registration and Hospital Service

COMING EXAMINATIONS

ALASKA: Juneau, March 7. Sec., Dr. Harry C. De Vigne, Juneau.
ARIZONA: Phoenix, April 4-5. Sec., Dr. Ancil Martin, 207 Goodrich Bldg., Phoenix.
CONNECTICUT: Hartford, March 14-15. Sec., Reg. Bd., Dr. Robert L. Rowley, 79 Elm St., Hartford.
CONNECTICUT: New Haven, March 14. Sec., Elec. Bd., Dr. James E. Hair, 730 State St., Bridgeport. Sec., Homeo. Bd., Dr. Edwin C. M. Hall, 82 Grand Ave., New Haven.
DISTRICT OF COLUMBIA: Washington, April 11. Sec., Dr. Edgar P. Copeland, 1315 Rhode Island Ave., Washington.
HAWAII: Honolulu, April 10. Sec., Dr. G. C. Milnor, 401 Beretania St., Honolulu.
IDAHO: Boise, April 4. Director, Mr. Paul Davis, Boise.
IOWA: Des Moines, March 21-23. Sec., Dr. Rodney P. Fagen, Capitol Bldg., Des Moines.
MAINE: Portland, March 14-15. Sec., Dr. Frank W. Searle, 775 Congress St., Portland.
MASSACHUSETTS: Boston, March 14-16. Sec., Dr. Samuel H. Calderwood, State House, Boston.
MINNESOTA: Minneapolis, April 4-6. Sec., Dr. Thomas S. McDavitt, 539 Lowry Bldg., St. Paul.
MONTANA: Helena, April 4. Sec., Dr. S. A. Cooney, Power Bldg., Helena.
NEW HAMPSHIRE: Concord, March 9-10. Sec., Dr. Charles Duncan, Concord.
NEW MEXICO: Santa Fe, April 10-11. Sec., Dr. R. E. McBride, Las Cruces.
OKLAHOMA: Oklahoma City, April 11-12. Sec., Dr. J. M. Byrum, Shawnee.
RHODE ISLAND: Providence, April 6-7. Sec., Dr. Byron U. Richards, State House, Providence.
UTAH: Salt Lake City, April 4. Director, Mr. J. T. Hammond, Salt Lake City.

Iowa November Examination

Dr. Rodney P. Fagen, secretary, Iowa State Board of Medical Examiners, reports the written examination held at Des Moines, Nov. 1-3, 1921. The examination covered 8 subjects and included 100 questions. An average of 75 per cent. was required to pass. Nine candidates were examined, all of whom passed. The following colleges were represented:

College	PASSED	Year Grad.	Per Cent.
Rush Medical College.....		(1897)	89.1
University of Illinois.....	(1920)	87.3, (1921)*	89.9, 91.6
University of Louisville Medical Department.....	(1921)		86.6
Harvard University.....	(1902)		83.1
University of Minnesota.....	(1917)		91.3
St. Louis College of Physicians and Surgeons.....	(1910)		83.9
Cornell University.....	(1920)		87.8

Dr. Rodney P. Fagen, also reports that 34 candidates were licensed by reciprocity, Dec. 28, 1921. The following colleges were represented:

College	LICENSED BY RECIPROCITY	Year Grad.	Reciprocity with
Chicago College of Medicine and Surgery.....	(1911)		Illinois
College of Med. and Surg. (Physio-Medical) Chicago.....	(1907)		Illinois
Hahnemann Medical College and Hospital, Chicago.....	(1910)		Illinois
Loyola University.....	(1916, 2)		Illinois, Wyoming
Northwestern University.....	(1913)		Illinois
Rush Medical College.....	(1910)		Illinois
(1912) Minnesota, (1914), (1917) Illinois			
University of Illinois.....	(1915)		Wisconsin
(1916), (1919), (1920) Illinois			
University of Kansas School of Medicine.....	(1921)		Kansas
Louisville National Medical College.....	(1909)		Indiana
Detroit College of Medicine and Surgery.....	(1920)		Michigan
University of Michigan Homeopathic Medical School.....	(1920)		Michigan
University of Minnesota.....	(1920)		Minnesota
St. Louis College of Physicians and Surgeons.....	(1903)		Missouri
St. Louis University School of Medicine.....	(1919), (1920, 2)		Missouri
John A. Creighton Medical College.....	(1914)		Nebraska
University of Nebraska.....	(1916), (1918), (1920, 2), (1921)		Nebraska
University of Cincinnati College of Medicine.....	(1920)		Ohio
Western Reserve University.....	(1912)		Ohio
University of Pennsylvania.....	(1898)		Penna.
University of West Tennessee.....	(1915)		N. Carolina

* These candidates have finished the medical course and will obtain the M.D. degrees after they have completed a year's internship in a hospital.

Massachusetts November Examination

Dr. Walter P. Bowers, former secretary, Massachusetts Board of Registration in Medicine, reports the oral, written and practical examination held at Boston, Nov. 8-10, 1921. The examination covered 13 subjects and included 65 questions. An average of 75 per cent. was required to pass. Of the 48 candidates who took the physicians' and surgeons'

examination, 37, including 2 osteopaths, passed and 11, including 1 osteopath, failed. The following colleges were represented:

College	PASSED	Year Grad.	Per Cent.
Leland Stanford Junior University.....	(1917)		83.4
Yale University.....	(1907)		86.7
Loyola University.....	(1918)		77.2
Boston University.....	(1921)		75
College of Physicians and Surgeons, Boston.....	(1921)		75
Harvard Univ.....	(1909) 81.7, (1919) 89.7, (1921) 79.5, 82.4, 84.5, 84.6		
Middlesex College of Medicine and Surgery.....	(1920)		75,
(1921) 75, 76.8, 80.6, 84.5			
Tufts College Medical School.....	(1919) 79.7, (1920) 77.5, 78.1,		
(1921) 75.6, 79.1, 79.7, 81.2			
American Medical College.....	(1901)		75
St. Louis College of Physicians and Surgeons.....	(1921)		75
Hahnemann Med. College and Hosp. of Philadelphia.....	(1920)		81.5
Medico-Chirurgical College of Philadelphia.....	(1902)		*
University of Pennsylvania.....	(1919)		77
Vanderbilt University.....	(1919)		80.3
University of Vermont.....	(1887) 75, (1914) 77.8, (1921)		81.3
Marquette University.....	(1917)		79.7
Royal College of Physicians and Surgeons, Ireland.....	(1911)		89
University of St. Vladimira.....	(1904)†		76.7
Osteopaths.....			75, 75

FAILED

Kentucky School of Medicine.....	(1906)		72
University of Maryland.....	(1921)		71.6
College of Physicians and Surgeons, Boston.....	(1916)		69.8,
(1918) 73			
Middlesex College of Medicine and Surgery.....	(1918)		67.2,
(1919) 67.3, (1920) 72.6			
Laval University.....	(1903)		47.8
University of Geneva.....	(1915)†		61.6
Central Turkey College, Ottoman.....	(1919)†		54
Osteopath.....			69.3

* No grade given.

† Graduation not verified.

Maryland December Examination

Dr. J. McP. Scott, secretary, Maryland State Board of Medical Examiners, reports the oral and written examination held at Baltimore, Dec. 13-16, 1921. The examination covered 9 subjects and included 90 questions. An average of 75 per cent. was required to pass. Of the 19 candidates examined, 16 passed and 3 failed. The following colleges were represented:

College	PASSED	Year Grad.	Number Licensed
Howard University.....		(1920)	2
Johns Hopkins Univ.....	(1917), (1919, 2), (1920, 3), (1921, 5)		11
Harvard University.....	(1919)		1
Jefferson Medical College.....	(1921)		1
University of Virginia.....	(1919)		1

College	FAILED	Year Grad.	Number Licensed
University of Maryland.....	(1917)		1
Medical College of Virginia.....	(1917)		1
University of Zurich.....	(1917)*		1

Dr. Scott also reports that from Sept. 29 to Dec. 16, 1921, 5 candidates were licensed by reciprocity. The following colleges were represented:

College	LICENSED BY RECIPROCITY	Year Grad.	Reciprocity with
George Washington University.....	(1915)		W. Virginia
Tulane University.....	(1919)		Mississippi
College of Physicians and Surgeons, Baltimore.....	(1914)		Dist. Colum.
Maryland Medical College.....	(1905)		Penna.
Medical College of the State of South Carolina.....	(1919)		W. Virginia

* Graduation not verified.

Nebraska November Examination

Mr. H. H. Antles, secretary, department of public welfare, reports the written and practical examination held at Lincoln, Nov. 14-16, 1921. The examination covered 9 subjects and included 90 questions. An average of 70 per cent. was required to pass. Of the 7 candidates examined, 6 passed and 1 failed. The following colleges were represented:

College	PASSED	Year Grad.	Number Licensed
Bennett Medical College.....	(1912)		1
St. Louis College of Physicians and Surgeons.....	(1919)		1
John A. Creighton Medical College.....	(1915), (1921)		2
Cincinnati College of Medicine and Surgery.....	(1891)		1
Trinity Medical College.....	(1894)		1

FAILED

Lincoln Medical College.....	(1918)		1
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Mr. Antles also reports that 16 candidates were licensed by reciprocity from Oct. 6 to Nov. 16, 1921. The following colleges were represented:

College	LICENSED BY RECIPROCITY	Year Grad.	Reciprocity with
College of Medical Evangelists.....	(1917)		Washington, California
American Medical Missionary College.....	(1900)		Wisconsin
Chicago Hospital College of Medicine.....	(1918)		Wyoming

Hahnemann Med. College and Hospital of Chicago.....(1920)	Illinois
Loyola University.....(1918)	Wyoming
Northwestern University.....(1908)	Illinois
Rush Medical College.....(1917)	Illinois
State University of Iowa College of Med.....(1913), (1919)	Iowa
Tulane University.....(1909)	Kansas
Harvard University.....(1905)	New Jersey
University of Minnesota.....(1906)	Minnesota
Central Medical College of St. Joseph.....(1905)	Kansas
Meharry Medical College.....(1918)	Tennessee

University of Budapest.....(1909)* 84.7, (1917)*	75
University of Naples.....(1914)*	77.2
University of Klausenberg.....(1917)*	79.5
University of Zurich.....(1911)*	75

FAILED	
Howard University.....(1920)	67.2
Loyola University.....(1918)	71.7
Temple University.....(1919)	72.4
Meharry Medical College.....(1917)	67
University of Palermo.....(1918)*	60.8

* Graduation not verified.

North Carolina December Meeting

Dr. Kemp P. B. Bonner, secretary, North Carolina State Board of Medical Examiners, reports that 18 candidates were licensed by reciprocity at the meeting held at Greensboro, Dec. 3, 1921. The following colleges were represented:

College	LICENSED BY RECIPROCI- TY	Year Grad.	Reciprocity with
University of Southern California.....(1900)			California
Yale University.....(1919)			Virginia
Georgetown University.....(1911)			Dist. Colum.
Atlanta College of Physicians and Surgeons.....(1903), (1912)			Georgia
Chicago College of Medicine and Surgery.....(1915)			Illinois
Johns Hopkins University.....(1917), (1918)			Maryland
College of Physicians and Surgeons, Baltimore.....(1903)			S. Carolina
Long Island College Hospital.....(1912)			New York
North Carolina Medical College.....(1919)			Virginia
Miami Medical College.....(1905)			Indiana
Starling Medical College.....(1894)			R. Island
Jefferson Medical College.....(1884)			Penna.
Woman's Medical College of Pennsylvania.....(1889)			Mass.
Medical Coll. of the State of South Carolina.....(1901), (1908)			S. Carolina
Medical College of Virginia.....(1919)			Virginia

Virginia December Examination

Dr. J. W. Preston, secretary, Virginia State Board of Medical Examiners, reports the written examination held at Richmond, Dec. 13-16, 1921. The examination covered 8 subjects and included 80 questions. An average of 75 per cent. was required to pass. Of the 15 candidates examined, 14 passed and 1 failed. Six candidates were licensed by reciprocity. Three candidates were licensed on government credentials. The following colleges were represented:

College	PASSED	Year Grad.	Per Cent.
George Washington University.....(1921)			86
Howard University.....(1921)			87
University of Louisville Medical Department.....(1921)			88.8
Tulane University.....(1921)			84
University of Maryland.....(1921)			87
Harvard University.....(1921)			90
Cotner University.....(1911)			79
Medical College of Virginia.....(1918) 78, (1921)			79.8, 83
University of Virginia.....(1919) 91.7, (1921)			91, 92
National University, Athens.....(1906)*			85

FAILED			
Barnes Medical College.....(1894)			66

College	LICENSED BY RECIPROCI- TY	Year Grad.	Reciprocity with
George Washington University.....(1907)			Dist. Colum.
Johns Hopkins University.....(1920)			Maryland
Lincoln Memorial University.....(1913)			Tennessee
Jefferson Medical College.....(1910)			Pennsylvania, Tennessee
University of Pennsylvania.....(1906)			N. Carolina

College	ENDORSEMENT OF CREDENTIALS	Year Grad.	Endorsement with
Loyola University.....(1916)			U. S. Navy
University of Louisville Medical Department.....(1917)			U. S. Navy
University of Virginia.....(1917)			U. S. Navy

* Graduation not verified.

Ohio December Examination

Dr. H. M. Platter, secretary, Ohio State Medical Board, reports the oral, written and practical examination held at Columbus, Dec. 7-9, 1921. The examination covered 11 subjects and included 100 questions. An average of 75 per cent. was required to pass. Of the 35 candidates examined, 30 passed and 5 failed. The following colleges were represented:

College	PASSED	Year Grad.	Per Cent.
Georgetown University.....(1921)			89.9
University of Louisville Medical Dept.....(1921)			76.1
Johns Hopkins University.....(1921)			83.9, 86.8, 88.4
Harvard University.....(1916) 84.1, (1921)			87, 91.8
Eclectic Medical College.....(1921)			75.1, 77.8
Western Reserve University.....(1920) 85.8, (1921)			84.8, 86.1
Hahnemann Med. College and Hospital of Philadelphia.....(1921)			81.4
Jefferson Medical College.....(1919) 81.8, (1921)			82.3, 87.6
University of Pennsylvania.....(1921)			87.1
University of Pittsburgh.....(1920)			88.5
Woman's Medical College of Pennsylvania.....(1920)			89.9
Meharry Medical College.....(1920) 76.4, 77.1, (1921)			75.8
Marquette University.....(1911)			76.2
McGill University.....(1921)			87.9

Book Notices

X-RAYS AND RADIUM IN THE TREATMENT OF DISEASES OF THE SKIN. By George Miller MacKee, M.D., Assistant Professor of Dermatology and Syphilology, College of Physicians and Surgeons, Columbia University. Cloth. Price, \$9. Pp. 602, with 250 illustrations. New York: Lea & Febiger, 1921.

This work has been looked forward to with great anticipation, for MacKee has already written a new chapter in radiotherapy by establishing an indirect method of practically precise measurement of roentgen-ray exposures. The work which he has done in this is almost the only addition of certain value to radiotherapy in recent years. It has put the radiotherapy of at least skin diseases on a much more accurate footing than ever before. The book well justifies the expectations of it. It is thorough and complete. The most valuable parts are the chapters dealing with the physics and technic of roentgen-ray therapy, into which the author has gone with satisfactory fulness. In this part of the book he has given, first, a very careful statement of the physics of the subject which are fundamental to intelligent roentgen-ray therapy. He has then gone into the details of technic or roentgen-ray therapy, and in an equally satisfactory way. This part of the work contains much that is original, and gives the book a unique value. To this portion of it he has given almost exactly 50 per cent. of the book; and this large space is justified by the importance of the subjects. The second half of the volume is devoted to the consideration of therapeutic applications of radium and roentgen rays in various diseases. Here the author has considered the various diseases in which roentgen rays are useful, and has given a statement of the subject to which all conservative workers of experience in this field will subscribe in nearly all particulars. He has not given the therapeutic indications of roentgen rays and radium in a way that clearly shows why the agents are useful in those diseases in which experience has demonstrated their value. As these therapeutic indications have been analyzed in the past, and as their understanding is a matter of great importance to workers in this field, it seems regrettable that he has not seen fit to outline more clearly the reasons for the therapeutic uses. The book is excellently gotten up. Taking it all in all, it is an exceedingly valuable contribution to the subject. Dr. MacKee is to be congratulated on the work he has done in this field and the exposition of it that he has made. The book should be in the hands of all workers in roentgen-ray therapy.

OBSTETRICS AND GYNAECOLOGY. Edited by John S. Fairbairn, M.A., B.M., B.Ch., Obstetric Physician, St. Thomas's Hospital. Cloth. Price, \$20. Pp. 950, with 175 illustrations. New York: Oxford University Press, 1921.

This is practically a one volume system, edited by Dr. Fairbairn and contributed to by many British obstetricians and gynecologists of note. The book is printed two columns to a page, the page style resembling somewhat that of THE JOURNAL. The usual subjects are covered completely; among the unusual articles are those on "The Infant," and in the section on "Public Health, Social and Medicolegal." Here special sections are devoted to the rôle of obstetrics in preventive medicine, maternity and infant welfare centers, and industrial occupations and the health of women workers. As is well known, British practice differs in many details from that followed in America. Many of the authors have, however, appended to their articles bibliographic references to American contributions, and call attention to these variations. The volume is intended particularly for the general practitioner rather than for the medical student.

Medicolegal

Rights of State Above Those of Physician

(*Lawrence v. Briry et al. (Mass.), 132 N. E. R. 174*)

The Supreme Judicial Court of Massachusetts, in overruling exceptions to the dismissal of a petition for a writ of prohibition, says that the petitioner was duly licensed and registered as a practitioner in medicine, and that the defendants were the members of the board of registration in medicine. The board had summoned him before it to show cause why his certificate of registration should not be revoked for "gross misconduct in the practice of his profession," with specification of entering into an agreement on a designated date to perform or to attempt to perform an abortion on a person named. The petitioner contended that if guilty of that charge his certificate of registration could not be taken away because he had not been convicted of any crime. His main contention, however, was that Chapter 218 of the Statutes of 1917, under the authority of which the board was acting, was unconstitutional, and that the board was without jurisdiction to revoke his registration and license to practice medicine. The essential provisions of that chapter are that the board may, after a hearing, "revoke or cancel any certificate, registration, license or authority issued by the board if it appears that the holder . . . is guilty of deceit, malpractice, gross misconduct in the practice of his profession, or of any offense against the laws of the commonwealth relating thereto," such revocation or cancellation not to affect other punishment provided by law; that there shall be a hearing before the board at which the practitioner may appear with witnesses and counsel; that the board shall not defer action until the conviction of the person accused; and that the supreme judicial court may revise and reverse the order of the board on appropriate proceedings to that end.

The right to follow a legitimate calling for any lawful purpose is sacred and is protected both by the constitution of the United States and by that of Massachusetts. The right of a physician to toil in his profession, as well as the right of all other citizens to labor in their chosen work, is both liberty and property, partaking of the nature of each, and is guaranteed by constitutional mandate from unwarrantable interference. But this right with all its sanctity and safeguards is not absolute. It must yield to the paramount right of government to protect the public health by any rational means.

Soundness of moral fiber to insure the proper use of medical learning is as essential to the public health as medical learning itself. Mere intellectual power and scientific achievement without uprightness of character may be more harmful than ignorance. Highly trained intelligence combined with disregard of the fundamental virtues is a menace. A physician, however skilful, who is guilty of deceit, malpractice, or gross misconduct in the practice of his profession, even though not amounting to an offence against the criminal laws, well may be thought to be pernicious in relation to the health of the community. It is for the legislature to determine within reasonable limits, in the exercise of the police power, what the tests shall be for moral character sufficient to enable one to continue in the practice of medicine. The statute in this particular is not open to objection. The circumstance that the petitioner already had been registered and given a certificate to practice medicine gave him no immunity against future legislation of the nature embodied in Chapter 218. He had no vested right to prey on society by the exercise of deceit, malpractice, or gross misconduct in the practice of his profession. His license to practice constituted no contract of that nature.

There was nothing in the contention that the amendment of Chapter 218 by Section 296 of Chapter 257 of the Statutes of 1918 gave any protection to the petitioner. The validity of the statute is within the authority of numerous decisions, and the conclusion here reached is in harmony with that of numerous other state courts on a precisely similar point. No discussion is needed to show that the specification charged in

the notice was within the terms of the statute, and if found to be true would warrant, if it would not require, the revocation of the license to practice. The statute afforded every reasonable safeguard to protect the rights of the petitioner by requiring a hearing at which he might be present with witnesses and counsel, and providing also for hearing in court and revision and reversal of the finding of the board, if justice demanded such action.

Not Liable for Using Roentgen-Ray Static Machine

(*Street v. Hodgson (Md.), 115 Atl. R. 27*)

The Court of Appeals of Maryland, in affirming a judgment in favor of the defendant physician, says that he was charged with negligence in the use of a roentgen-ray machine in treating the left leg of a patient for eczema. At the defendant's request, the jury was instructed that if the patient had suffered from eczema for several years, and had been treated by numerous physicians for that disease, which failed to yield permanently to such treatments, but got better and then worse at times, and in October, 1918, began treatment by the defendant, who used a roentgen-ray static machine, then, if the defendant employed the proper apparatus and the usual and ordinary methods, and in the treatment acted as a reasonably competent and skilful physician using ordinary care, the verdict must be for the defendant, notwithstanding that the leg got worse, so that, after treatment by several other physicians, it became necessary to amputate the leg, and the patient finally died, in September, 1920. Even if the jury believed from the evidence that the patient received from the roentgen-ray machine a burn on the leg, yet if the jury further believed that the defendant had the skill and knowledge of a reasonably competent physician using reasonable care in the use of such a machine in the treatment of such conditions, that, in his treatment of the leg, he used the care required of a skilful and competent physician, and that the method of treatment was proper, he was not liable for any injury due merely to an error of judgment on his part. The degree of care and skill to be exercised by the defendant was not the highest known to the medical profession, but that reasonable degree of care and skill which reasonably competent and skilful physicians ordinarily exercise in the treatment of their patients by roentgen ray from a static machine; and the burden of proof rested on the plaintiff to establish by preponderating evidence a want of such ordinary care and skill in the treatment of this patient. The jury could not infer from the fact alone that the leg was burned that the defendant failed to treat the patient with ordinary care and skill. A physician, in undertaking the treatment of a case by roentgen ray from a static machine, cannot be held to insure a good result or to benefit the patient. If the patient suffered from chronic squamous eczema and was treated as stated, making little or no improvement; and was then treated by another physician with the roentgen ray produced by a transformer machine, and subsequently developed pemphigus, and died thereof; and the jury could not find from a preponderance of the evidence which of said diseases or treatment caused the injury complained of, and the minds of the jurors were in equipoise on that question, the verdict must be for the defendant.

As it was a question of the safety of the machine, and not of its efficiency, and as there was no testimony that it was not safe when properly used, but, on the contrary, all the experts testified that it was all right, so far as safety was concerned, when used with proper safety devices, the defendant was not required to submit to the jury any issue involved in the exercise of care and knowledge in the selection of a machine. The instruction that the jury could not infer negligence from the fact alone that there was a burn still left the jury entirely free to say whether, in its opinion, it was negligence to use the static machine, as the defendant did, without a meter, and without protecting the leg; and whether the burn, assuming there was a burn, was due to the failure to use a meter and protection for the leg.

The precise question as to whether the jury was properly instructed that it could not infer negligence from the fact of the burn alone, or whether the maxim, *res ipsa loquitur*,

"the matter speaks for itself," applies to such an occurrence, has not been decided by this court, and in the few cases elsewhere in which it appears to have been decided the decisions are not harmonious. At any rate, in the absence of evidence from which, without speculating, the jury could draw a reasonable inference from the mere occurrence of such an accident, it should not be permitted to infer negligence from the occurrence alone.

Bonesetter a Practitioner of Medicine

(*Commonwealth v. Dragon (Mass.)*, 132 N. E. R. 356)

The Supreme Judicial Court of Massachusetts, in overruling exceptions in two cases against the defendant, says that on separate complaints he was found guilty of holding himself out as a practitioner of medicine, and of practicing medicine without being lawfully authorized so to do. The only questions raised by the exceptions were whether there was evidence justifying the jury in finding that he did so hold himself out and did practice in Ware. It appeared that a man named Lak, who lived in Ware, suffered a simple fracture of the tibia and fibula of his left leg, and for two days was under the care of a local physician. Then the defendant, who lived in another place, but was known in Ware, went to Ware to seek Lak relative to his injury. He examined the injured leg and found that it was fractured. He then set it. In doing this he used an external application of the consistency of cream, cotton, splints, cloth bandages and adhesive tape plaster. He told Lak that after forty days' rest the leg would be all right. He then, on request, examined Lak's ankle and knee and said that the ankle and the kneecap were out of joint. He remedied, or purported to remedy, these troubles, and left with the injured man a small bottle of the medicine which had been applied to his leg. In response to an inquiry by Lak, he said that he would be in town in about two weeks, that he had an office in a certain hotel, and that anybody could come and see him, and he could let Lak have more of the medicine. There was a second visit made, and the defendant was paid \$35 for the first one, and \$5 for the second. The defendant had been engaged in business for twenty-five years; had offices in three other places, and went to Ware, where he used a room in a hotel as an office. There was no evidence that he displayed any signs in Ware. He did not argue that the services rendered were casual or without the usual course of his calling, but stated the question of law involved to be: "Does a bonesetter require a license, under the Massachusetts law, as one who is engaged in the practice of medicine or surgery?" He supplemented this with the contention that, under Section 8 of Chapter 76 of the Revised Laws, there is a distinction between medicine and surgery and that the statute does not provide for the punishment of one who practices surgery unless the practice is under a false or an assumed name. But if the jury found that he, for hire, diagnosed Lak's injury and treated it in the manner described, his conviction of practicing medicine without registration was required by the statute. His conviction of the offense of holding himself out as a practitioner of medicine contrary to Section 8, as amended, was well warranted, if he had been engaged in the practice of bonesetting for 25 years in various places, had represented that he was qualified to perform such services, and had a room in Ware, which he said was his office, in which he transacted that business; and if he rendered the described services to Lak.

The statute under which these proceedings were instituted provides for the registration of physicians and surgeons. It does not permit their separate examination. The examinations for registration for all applicants must include anatomy and surgery, and are required to be "sufficiently thorough to test the applicant's fitness to practice medicine." The statute makes it a criminal offense not only for a person to hold himself out as a practitioner of medicine and to attempt to practice medicine in any of its branches, but to practice medicine and surgery under a false or assumed name or under a name other than that of which he is registered. The words "practitioner of medicine" and "practice of medicine in any of its branches," as used in the statute, include the practitioner and the practice of surgery. While the practice of medicine in a strict sense may be divided into various

branches, it includes the art of remedying the results of violence and accident by setting fractured bones. This result is within the reason of the Massachusetts decisions and is required by the statute notwithstanding both physicians and surgeons are referred to therein.

Carpenter Developing "Housemaid's Knee" an Accident

(*Standard Cabinet Co. v. Landgrave (Ind.)*, 132 N. E. R. 661)

The Appellate Court of Indiana, Division No. 2, holds that when a man who had been in the employ of a cabinet company for about 19 years as a carpenter was set to scraping and polishing floors in the home of the president of the company, which required him to work on his knees, and, after he had been doing it for six or seven days, developed bursitis or what is sometimes called "housemaid's knee," the finding of the industrial board that he received a personal injury by accident, arising out of and in the course of his employment, was justified. The court says that it need not consider whether such disease is or is not an occupational disease; for, if it be conceded that it is in the nature of such, compensation may nevertheless be allowed, if it is contracted under such conditions as to constitute an accidental injury, as found in this case.

Society Proceedings

COMING MEETINGS

- Alabama, Medical Association of the State of, Birmingham, April 20-23.
Conference on Medical Education, Hospitals and Public Health, American Medical Association, Chicago, March 6-10.
Louisiana State Medical Society, Alexandria, April 11-13. Dr. P. T. Talbot, 1551 Canal St., New Orleans, Secretary.
Maryland, Medical and Chirurgical Faculty of, Baltimore, April 25-27.
Nebraska State Medical Association, Omaha, April 24-27.
New Mexico Medical Society, Gallup, April 28-29.
New York, Medical Society of the State of, Albany, April 18. Dr. E. L. Hunt, 17 W. 43d St., New York, Secretary.
North Carolina, Medical Society of the State of, Winston-Salem, April 25-27.
South Carolina Medical Association, Rock Hill, April 18-19. Dr. Edgar A. Hines, Seneca, Secretary.
Tennessee State Medical Association, Memphis, April 11-13. Dr. Olin West, 327 Seventh Avenue, N., Nashville, Secretary.

CHICAGO MEDICAL SOCIETY

Regular Meeting, held Feb. 15, 1922

The President, DR. JOHN S. NAGEL, in the Chair

Some Newer Phases of Vitamin Studies

DR. A. D. EMMETT, Chairman of the Nutritional Committee of the American Chemical Society, Detroit: There are more research laboratories and institutions working intensively, directly or indirectly, on vitamin studies at present than on any other one subject. Primarily, I believe that so much emphasis is being placed on this subject because of the tremendous impetus that was put on nutrition by the World War, when it was realized, as never before, that of basic and fundamental importance is nourishment in relation to health, vigor, disease and recuperation. The peculiar and unique place which nutrition occupies in the application of therapeutics today is being recognized more and more by the physician and surgeon, the dentist, the nurse and the dietitian.

A perfect food contains proteins, carbohydrates, fats, mineral salts and vitamins. The proteins must be of the right kind and must be adequate in order to supply the amino-acids. The mineral salts must be of the right kind and in proper ratio to one another. These must have the proper supply of calcium, magnesium, potassium, chlorine, phosphorus, etc. There is no definite chemical way of determining whether vitamins are present or absent in our diet, and the only way at present is to feed animals under definite conditions, to bring about in animals a definite pathologic condition, and in turn feed the animals, after they have been brought into that pathologic condition, with a certain preparation of foods

to see whether the animals can be restored back to normal. It is recognized that we must have three types of vitamins—A, B and C—and then we have a complete food. If we withhold vitamin A, we have an incomplete food. On the other hand, if we put back vitamin A and remove vitamin B, we have an incomplete food. If we withhold vitamin C, the food is incomplete, but if all three of the vitamins are given to the animal, it will grow normally. (Tables were presented showing the different vitamins used in feeding animals and birds, and how such diseases as beriberi, polyneuritis, xerophthalmia, keratomalacia, xerosis and rickets are produced by a lack of one or more of the vitamins in the diet. Live birds and animals were exhibited showing different stages of development of these diseases, and how by putting such animals and birds back on a diet consisting of the proper vitamins they are again restored to normal.)

The medical profession should give more attention in the future to diet and nutrition along with the therapeutic treatment of patients, bearing in mind that vitamins are only one of the factors to be considered.

DISCUSSION

DR. W. H. WELKER: I would call attention to the importance of educating the patient's appetite. I have tried to do a little of this in connection with some metabolic work I have done, and I have found it to be the most difficult type of education that one can undertake. There are many persons who live to eat, and unless the food they propose to eat meets with their ideas of taste and variety they are not inclined to eat it. With a patient it is a still more difficult proposition. McCollum has repeatedly stated that we have largely eliminated the accessory food factors from our diets through perverted appetites. That being the case, it is now the function of the medical profession to train back the appetite of people along normal channels.

Another thing that is necessary in discussing diets with patients is that they should have some idea of quantity. Lean or undernourished patients, when asked about the quantity of food they eat, say that they eat considerably more than the fat person in the family, and the obese individual is always ready to swear that he eats practically nothing, yet he keeps on gaining. With proper education of the appetite, and a content of reasonable quantity of accessory food substances, and with a rational quantity of the different basic foods, nutrition can be fairly well handled.

DR. A. J. CARLSON: One difficulty in isolating some of these deficiency symptoms supposed to be due to a lack of sufficient vitamins lies in the fact that most of these animals start to eat less and less, and some of the symptoms, like atrophy of the testicles, loss of weight and edema, can be duplicated in the same animals by starvation or the withdrawal of food, when a comparable loss of weight has been secured. Regarding the so-called fat soluble A, one has to go through very laborious and strenuous chemical processes to get that vitamin out from the foods, so that one can actually get a diet free from fat soluble A. For some animals, at any rate, there is enough fat soluble A in skimmed milk or protein precipitated from skimmed milk, and one must purify the casein again and again to get the vitamin out so as to produce the symptoms of deficiency of that particular vitamin. Xerophthalmia is not as clear cut as some authors would like to have it. For instance, very few investigators have succeeded in getting anywhere near 100 per cent. eye symptoms in a diet as free as possible from vitamin A. A diet may be given until the animal dies without the appearance of any eye symptoms. No one knows the exact composition of these vitamins, or how they work. It is known, however, that they will produce certain effects, direct or indirect. Under the circumstances, the proper course for the medical profession to pursue is not to encourage the giving of vitamins in pill form, but to go back to first principles and correct the diet.

DR. C. H. FARMER: Physicians should not be swept off of their feet by what I would term the vitamin infection. It is essential to take care of the general diet, and with the general diet take up the vitamins. There should be such selection of food that a sufficient amount of these vitamins may be

included. The proper selection of food is the function of the dietitian.

DR. J. J. MOORE: Many ailments can be produced by the lack of certain vitamins in the food. No one knows how much vitamin a human being needs. Apparently an infant needs very little more of the antiscorbutic vitamins than a small guinea-pig weighing 150 gm. (2,315 grains). While a guinea-pig may need 5 c.c. (1¼ fluidrams) of orange juice a day, a baby will get along nicely on 10 c.c. (2¼ fluidrams) of orange juice a day. To the three well known vitamins, vitamin D is now being put before the profession, and probably there will be suggested another vitamin for pellagra. I would urge a proper selection of diet rather than the taking of vitamins in the form of pills or capsules.

DR. JULIUS H. HESS: One of the strongest facts brought out in these studies in recent years is the result obtained by studying the effects of age on food and the oxidation of food. It has been my practice ever since certified milk has been adopted in Chicago to recommend it, and I think the strongest argument in favor of it is the result obtained by various observers. There is a rapid diminution of the vitamin content in all heated milk on standing for a given length of time. During the last few months there has been propaganda against certified milk in Chicago, and I believe it is worth while to try and keep this product on the market with that one idea in view. Short boiling of milk for a few hours before feeding is of great benefit as compared with the long aging of commercial pasteurization. This applies to the selection of other foods for infants and children. I have worked out the antiscorbutic content of the vitamin products on the market and can only substantiate what has been said. In feeding to guinea-pigs two or three times the amount of these products recommended for an infant, I have found that the guinea-pigs have all developed scurvy without exception.

DR. JOHN A. WESENER: I think that the term "food accessories," as suggested by McCollum, is far superior to vitamins, as little or nothing is definitely known about the chemistry of these vitamins, and what they really are is problematic. McCollum at one time denied the antiscorbutic element, and said that scurvy in guinea-pigs is due to constipation, and that when he gave these animals liquid petrolatum or phenolphthalein the scurvy disappeared. Again, McCollum believes that the lack or absence of vitamin A is the cause of rickets, but at present he has receded from that position, and further, that "fat soluble A is found in milk, and every one, if possible, should drink a quart of milk a day." The American race is not drinking enough milk. I do not think that vitamin A is the factor in the causation of rickets. The medical profession knows that a wholesome and complete ration does not prevent rickets. It requires more than this, namely, sunlight and good hygiene, plus lime and phosphorus. Cod liver oil seems to be almost a specific, but all the other factors just stated must be presented. According to McCollum, 50 per cent. of vitamin A is found in skimmed milk, and the other 50 per cent. is in the cream. Xerophthalmia is a disease which I believe is due to the lack of vitamin A in the food. It is well known by physicians and pathologists that starvation and an improperly balanced diet may bring about this condition, even in the presence of much vitamin A.

DR. A. D. EMMETT, Detroit: Investigators in this field should be reasonably conservative in drawing deductions. They should not make radical statements that this or that vitamin will accomplish this or that result. I am convinced that lack of fat soluble A will produce eye symptoms. If there is a lack of vitamin B, the animal will get symptoms different from those produced by a lack of soluble A; but if all three vitamins are used there will be perfect normal development. Scurvy is undoubtedly a dietary disease. According to Hess, tomato juice is quite active in the water soluble C factor, and if a reasonable amount of it is used in infants suffering from scurvy, it will correct the condition or prevent its further spread. Under certain conditions of malnutrition, and in the wasting diseases specifically, I believe there is a place for the proper use of vitamins in concentrated form, provided they have been tested out and are physiologically reacting.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

American Journal of Medical Sciences, Philadelphia

February, 1922, 163, No. 2

- Cause and Control of Dyspnea in Disease of Lungs. G. W. Norris, Philadelphia.—p. 157.
- *Nature and Treatment of Chronic Nephrosis. A. E. Epstein, New York.—p. 167.
- *Prevalence of Free Hydrochloric Acid in Cases of Carcinoma of Stomach. H. R. Hartman, Rochester, N. Y.—p. 186.
- *Relation of Acromegaly to Thyroid Disease. J. M. Anders and H. L. Jameson, Philadelphia.—p. 190.
- *Epileptoid or Fainting Attacks in Hypopituitarism. L. P. Clark, New York City.—p. 211.
- *Urea Concentration Test. D. R. Black, Kansas City, Mo.—p. 218.
- Biliary Tract Disease. B. B. V. Lyon, H. J. Bartle and R. T. Ellison, Philadelphia.—p. 222.
- *Diagnosis of Peritonitis and Peritoneal Transudates in Infants by Means of Abdominal Puncture with Capillary Tube. B. S. Denzer, New York.—p. 237.
- Pneumonia and Emphysema in Children. E. Glenn-Ravdin, Philadelphia.—p. 246.
- *Unknown Forms of Arteritis; Their Relation to Syphilitic Arteritis and Periarthritis Nodosa. F. Harbitz, Christiania, Norway.—p. 250.
- *Postoperative Dietotherapy. W. T. Vaughan and N. H. Van Dyke, Richmond, Va.—p. 273.
- *Addison's Disease; Case of Tuberculosis of Suprarenals. R. S. Keilty, Danville, Pa.—p. 282.

Thyroid Therapy of Chronic Nephritis.—In conformity with the view that chronic nephrosis is a metabolic disease related to a state of hypothyroidism, Epstein has used thyroid gland therapy in a number of cases resistant to usual treatment and with gratifying results. The effect of thyroid feeding in some cases of nephrosis was so striking that Epstein is convinced as to the relation of thyroid deficiency to this disease. The frequent occurrence of nephrosis in children and the usual gravity of the condition in such cases suggest the possibility of its being due to a deficiency of some factor in the food—possibly a vitamin. The diet proposed by Epstein consists in the feeding of a high protein, fat free, carbohydrate poor diet. The protein is to replace the protein lost by way of the urine so as to increase the osmotic force of the blood. The fat free carbohydrate poor part of the diet is to compel the body to utilize the protein as well as the lipoids which are present in the blood stream.

Free Hydrochloric Acid in Stomach Cancer.—Five hundred and fifty-one cases of stomach cancer are analyzed by Hartman with reference to the degree of acidity. In 51.85 per cent. of the pyloric lesions achlorhydria was present and the pyloric end of the stomach is not supposed to possess any acid forming cells that could be destroyed by a new growth. In 5.5 per cent. of the pyloric lesions the values were hyperacid. In the cardiac portion, the location of the acid forming cells, the achlorhydria was 61.54 per cent. and the hyperacid values 5.12 per cent. The location of the lesion apparently does not materially influence the degree of the acidity. Only 53.72 per cent. of the patients had achlorhydria; 15.78 per cent. had free hydrochloric acid in small amount. In 17.42 per cent. the gastric acidity was normal and 4.58 per cent. had hyperacid values. The sum of the last two figures shows that 21.95 per cent., or more than one case out of five, had normal or hyperacid values. About two out of five cases had a certain amount of free hydrochloric acid. The occasional marked difference between free and total acidity occurs particularly in pyloric lesions.

Thyroid Function Affected in Acromegaly.—Modifications of the function of the thyroid have been observed by Anders and Jameson in two cases of acromegaly. The use of thyroid extract in small doses has been remarkably effective for good. Not only has there been a marked subsidence of all of the myxedematous features, but the headaches, speech and nervous irritability have also been greatly relieved. The bony skeleton, however, has remained stationary. Literary studies have revealed an associated disturbance of the thyroid function in 33 per cent. of cases of acromegaly. Hypothyroidism is more commonly associated with acromegaly than hyper-

thyroidism, and those combined cases which manifest myxedematous features are decidedly improved as the result of the use of thyroid preparations.

Epileptoid Attacks in Hypopituitarism.—Clark asserts that there are a number of rapidly growing adolescents who have relatively benign fainting attacks which at first seemingly simulate larval forms of petit mal epilepsy. They are to be differentiated from this latter condition by the absence of the epileptic disorder. The syncopal states are but a part of the obscure clinical picture of dyspituitarism, in which there appears to be an excessive functioning of the anterior lobes of the pituitary gland. Coincident with the fainting attacks may be low blood pressure, slow pulse, vasomotor ataxia and a host of defective muscular and skeletal displacements. In the psychical sphere one may encounter not infrequently character delinquencies and slow mental development. The line of corrective treatment is physical plus the administration of specific glandular substance. Mild cases recover of their own accord by gradually restoring the glandular and physical balance, but they can be materially helped by proper direction and rest.

Urea Concentration Test.—Black's experience with this test leads him to believe that in high blood pressure cases beginning kidney dysfunction may be noted at an earlier date with this test than with the function tests commonly used.

Abdominal Puncture Aids Diagnosis of Peritonitis.—Five cases of peritonitis are presented by Denzer in which abdominal puncture and the capillary tube were of service in establishing the diagnosis. The same method has revealed free fluid in the peritoneal cavity of cases of rickets and marasmus. These observations on peritoneal inflammations and transudates are important because they indicate that a procedure which demonstrates minute amounts of fluid in the peritoneal cavity may be helpful in answering many questions of practical and experimental interest—the initial response of the peritoneum to infectious and other irritants, the question of peritoneal absorption and the therapeutic use of serums in pneumococcal infections.

Unknown Forms of Arteritis.—Harbitz considers periarteritis nodosa a definite disease due to a distinct virus. While the clinical picture may be variable, depending on the distribution of the lesions in the arteries, the lesion concerns a specific disease. Forms of true arteritis occur more frequently than is usually believed; they apparently differ etiologically, and they present anatomic appearances that make the differential diagnosis difficult, this being particularly true of the vascular changes in syphilis, periarteritis nodosa and also in tuberculosis.

Postoperative Dietotherapy.—The postoperative dietaries in use at St. Elizabeth's Hospital, Richmond, Va., and described by Vaughan and Van Dyke are made up on a basis of 2,000 calories with a protein intake slightly below 1 gm. per kilogram of average body weight. The feedings on all four diets are administered every two hours. The authors emphasize that in postoperative treatment the diet must be individualized. Every patient is a law unto himself. The patient's likes and dislikes should always be consulted and agreeable food substituted for that which is distasteful.

Addison's Disease; Tuberculosis of Suprarenals.—This report covers a case of Addison's disease presenting the characteristic clinical symptoms of progressive weakness associated with bronzing of the skin. Pathologically, the case presented a typical localized and focalized tuberculosis of both suprarenals with an arrested apical pulmonary tuberculosis of a probable unassociated nature. The direct smear from the suprarenal showed the presence of tubercle bacilli in large numbers. Animal inoculation with crushed material from the suprarenal produced experimental tuberculosis from which tubercle bacilli were obtained in culture.

American Journal of Public Health, Chicago

February, 1922, 12, No. 2

- Work of League of Red Cross Societies Typhus Research Commission to Poland. F. W. Palfrey, Boston.—p. 87.
- Situation Abroad as Regards Typhus Fever and Other Epidemic Diseases and Possibility of Their Importation into United States. H. S. Cummings, Washington, D. C.—p. 91.

- European Health Conditions. C. E. A. Winslow, Geneva, Switzerland.—p. 94.
- Prevention of Tuberculosis Based on Relation of Tuberculosis in Infancy and Childhood to Tuberculosis in Adult Life. A. K. Krause, Baltimore.—p. 101.
- Prevention and Cure of Rickets by Sunlight. A. F. Hess, New York.—p. 104.
- Simplicity in Preparation of Blanks and Forms. C. H. Lerrigo, Topeka, Kans.—p. 116.
- Simple Method for Anerobic Cultivation in Petri Dishes. S. Morse and N. Kopeloff, New York.—p. 119.
- Report of the Committee on Bathing Places. G. W. Simons, Jr.—p. 121.
- Correlation of Stream Pollution Criteria from Studies of Naugatuck and Hockanum Rivers in Connecticut. J. F. Jackson, Hartford, Conn.—p. 124.
- Detroit's Experience with Undernourished School Children. G. T. Palmer, Detroit.—p. 134.
- First Report of Committee on Municipal Health Department Practice of American Public Health Association, November, 1921. L. I. Dublin.—p. 138.

Boston Medical and Surgical Journal

Feb. 9, 1922, 186, No. 6

- *Reconsideration of Dyspepsias. F. W. Palfrey, Boston.—p. 165.
- Aeration of Posterior Accessory Sinuses in Acute Optic Neuritis. L. E. White, Boston.—p. 172.
- *Perforated Gastroduodenal Ulcers. Their Treatment. J. J. Hepburn, Boston.—p. 180.
- *Stiff Fingers. F. J. Cotton and E. J. Sawyer, Boston.—p. 183.
- Aid Which the State Offers in Control of Tuberculosis Through Sanatoria and Consultation Clinics. E. R. Kelly, Boston.—p. 185.

Dyspepsia.—Palfrey points out the hitherto little recognized source of gastric distress existing in an abnormal valvelike action of the cardiac orifice which deserves further study. Patients complaining of sour stomach and heartburn not due to hypersecretion or to catarrhal or to alcoholic gastritis are frequently benefited by bile or bile salts when given in coatings which will not be dissolved in the stomach. Palfrey suggests that for medical progress clinicians should not depend solely on the fully developed teachings of laboratories and hospitals, but should constantly follow and ponder over the teachings of the medical sciences in relation to their own observations in practice with the hope of developing new practical methods.

Treatment of Perforated Gastric Ulcer.—Eight cases are cited by Hepburn in which the perforation was closed and a posterior gastro-enterostomy was done. The patients recovered. The interval between the occurrence of the rupture and the operation varied from three to thirty hours. In one case a cholecystectomy was also done. Hepburn urges the adoption of posterior gastro-enterostomy in the treatment of these cases.

Treatment of Stiff Fingers.—Twenty-four hour traction, by miniature winches or by pull of elastic bands, traction exerted in the line of deformity to produce a distraction of joint surfaces, with very gradual change of the line of pull toward flexion or toward extension as the case demands, Cotton and Sawyer claim, will so supplement ordinary physiotherapy methods or so displace them that stiff hands and fingers may possibly come to be rare and come to be regarded as perhaps a reflection on the treatment of the case rather than as the result of the "Act of God" clause under which surgeons perhaps, even like the express companies, are a little too much inclined to explain their losses.

California State Journal of Medicine, San Francisco

February, 1922, 20, No. 2

- Operative Treatment of Strabismus. W. S. Franklin and W. D. Horner, San Francisco.—p. 39.
- Urologic Diagnosis. G. F. Farman, Santa Barbara, Calif.—p. 43.
- Tonsillectomy. J. W. Green, Vallejo, Calif.—p. 45.
- Inadequate Personality with Special Reference to Its Influence on Both Diagnosis and Treatment. R. Moore, Los Angeles.—p. 46.
- Specialist and His Obligation to Profession. G. G. Reinle, Oakland.—p. 48.
- Report of Work of Radium Department of University of California Hospital, Between April, 1920, and April, 1921. L. R. Taussig, San Francisco.—p. 50.
- Stricture of Urethra in Women. W. E. Stevens, San Francisco.—p. 51.
- Pre-Ataxic Gastric Crises of Tabes. C. Fishbaugh, Los Angeles.—p. 53.
- Gastro-enteroptosis. H. L. Hayes, Palo Alto.—p. 55.
- *Ameba as Cause of Second Great Type of Chronic Arthritis. L. W. Ely, A. C. Reed and H. A. Wyckoff, San Francisco.—p. 59.

- Occurrence of Endamoeba Dysenteriae in Bone Lesions in Arthritis Deformans. C. A. Kofoid and O. Swezy, Berkeley.—p. 59.
- Fallacy of Usual Tests for Swimming Pools. J. W. Robinson, Los Angeles.—p. 60.

Ameba Cause of Arthritis.—By the second great type of arthritis Ely and his associates mean that form of arthritis hitherto described by the Germans as arthritis deformans, by the English as osteo-arthritis, by Goldthwait as hypertrophic arthritis by Nichols and Richardson as degenerative arthritis, and by other writers under various titles. This is the senile form of arthritis, the chronic rheumatism of the elderly. For want of a better name some writers have called it metabolic arthritis. Some time ago the conception of the relationship of ameba to this problem was suggested by Dr. J. V. Barrow of Los Angeles, who had been working with C. A. Kofoid, and who had found *Endamoeba histolytica* (sive dysenteriae) in the stools of one of Ely's patients. Since then the authors have pursued this line of investigation. A full report of their investigations will be published at a later date. Paraffin sections of the bone in the region of necrotic areas from this type of arthritis were cut, from 4 to 8 microns thick. Stained by the standard iron-hematoxylin method, the sections showed organisms identified as *Endamoeba histolytica*. These organisms were abundant in the region of necrotic areas in the marrow, but not actually in the necrotic areas. They were especially abundant in the immediate vicinity of the capillaries.

Delaware State Medical Journal, Wilmington

October, November, December, 1921, 12, No. 4

- Edema Bullosum of Bladder. H. S. Miller, Wilmington.—p. 3.
- Roentgen-Ray as a Therapeutic Agent. I. Burns, Wilmington.—p. 4.
- *Three Obstetrical Rarities. W. Wertebaker, Wilmington.—p. 8.

Abdominal Pregnancy with Live Child.—Wertebaker reports a case of abdominal pregnancy in which a live child was delivered one year ago. The child is still living and well. The second case was one of complete, premature separation of the placenta at the sixth month of pregnancy. The unusual feature in the third case lies in the fact that the second of twins, presenting by the vertex in occipitoposterior position, should remain impacted just within the pelvic brim for more than forty-eight hours without spontaneous rotation or expulsion, although the pains were quite vigorous.

Florida Medical Association Journal, St. Augustine and Jacksonville

January, 1922, 8, No. 7

- Early Diagnosis of Carcinoma of Cervix. W. M. Rowlett, Tampa.—p. 111.
- State Board of Health and Its Bureaus. G. A. Dame, Jacksonville.—p. 114.
- Suprarenal and Thyroid Insufficiency. A. J. Wood, St. Petersburg.—p. 119.
- Syphilis as Public Health Factor. J. D. Gable, Washington, D. C.—p. 123.

Illinois Medical Journal, Oak Park

February, 1922, 41, No. 2

- Serious Menace and a Way Out. E. H. Ochsner, Chicago.—p. 81.
- Management of Fractures Near Joints. P. H. Kreuzer, Chicago.—p. 88.
- God Give Us Men. Maternity Bill. T. U. Sisson, Winona, Miss.—p. 93.
- Actinomyces: Diagnosis and Treatment. P. A. White, Davenport, Ia.—p. 99.
- Use of Fluoroscope for Reducing Fractures. G. L. McWhorter, Chicago.—p. 102.
- Management of Abdominal Wall Infections. A. M. Miller, Danville, Ill.—p. 104.
- Common Error in Describing Composition of Human Semen. C. E. M. Fischer, Chicago.—p. 106.
- Chronic Infections. F. G. Dyas, Chicago.—p. 108.
- Systemic Infections Due to Oral Sepsis. C. E. Bentley, Chicago.—p. 110.
- Abnormalities of Mastoid with Especial Reference to Facial Nerve. C. W. Hawley, Chicago.—p. 116.
- Focal Infection with Especial Reference to Apices of Teeth. F. S. O'Hara, Springfield.—p. 118.
- Nose, Throat and Ear as Foci of Infection. M. W. Brucker, Chicago.—p. 120.
- Focal Infections from Surgical Standpoint. C. U. Collins, Peoria, Ill.—p. 123.
- Rôle of Focal Infections on Nervous System. C. B. King, Chicago.—p. 125.
- Such Things Cry Aloud for Investigation for Welfare of Our Great Country. L. D. Volk, Brooklyn.—p. 129.

Indiana State Medical Association, Fort Wayne

January, 1922, 15, No. 1

- *Bacteria Recovered Postmortem: Selective Localization and Focal Infection. A. R. Barnes and A. S. Giordano, Rochester, Minn.—p. 1.
- Trachoma or Folliculosis Among School Children. J. A. Stucky, Lexington, Ky.—p. 7.
- *Case of Eclampsia with Forty-Two Convulsions. W. D. Gatch and W. D. Little, Indianapolis.—p. 13.
- Physician; Some Newer Tendencies in Preventive Medicine. F. B. Wynn, Indianapolis.—p. 15.

Bacteria Recovered Postmortem.—Bacteria recovered by Barnes and Giordano from various locations at necropsy, including foci of infection, exhibited selective localizing power in animals. This selective localizing power has been demonstrated in eleven of thirteen morbid conditions, comprising cases of nephritis, gastric ulcer, encephalitis and primary peritonitis. It is emphasized that the specialist may render an opinion concerning the pathology in a suspected focus of infection, but conclusions as to its importance and treatment are to be left in the hands of the internist. Careful control of the clinician's and specialist's judgment concerning foci by following up their cases and, if possible, supplementing their knowledge by bacteriologic study and animal experimentation will endow their opinions with the greatest value. Early discoveries of foci and their removal yield the most satisfactory results. Long continued insult may result in irreparable damage or a self-perpetuating process in a given structure. In such cases a guarded prognosis must be given, although the patient should be given the benefit of a possible cure.

Eclampsia with Forty-Two Convulsions.—A woman, aged 30, near the middle of the ninth month of her second pregnancy had five convulsions within seven hours. Each convulsion had been more severe than the preceding one and the intervals between were successively shorter. Six weeks prior to admission to hospital she had had an attack of influenza which had been followed by a marked albuminuria. At the age of 10 and again at 12 she had had a facial paralysis of the right side, of the lower neuron type. As a child she had been obese but had become thin at the establishment of catamenia at 14. The acute attack was ushered in by a suddenly developing headache, epigastric pain and blurred vision, followed by the convulsions. Pelvic examination revealed a cervix which was undilated and rigid. Cesarean section was considered preferable to any method of vaginal delivery. A living baby was obtained, but respirations were initiated only after considerable difficulty. Phlebotomy was resorted to after some hours had elapsed and more convulsions had occurred. In all 1,200 c.c. of blood was withdrawn. In order to replenish the blood volume, 625 c.c. of whole blood was given, from the husband, by the Kimpton-Brown method. Subsequent to the cesarean section there were no convulsions for two hours, during which time the patient roused sufficiently to inquire about the baby. Beginning after two hours and continuing for thirty hours there were thirty-seven convulsions. In the last two hours of the period there were rapidly recurring seizures of from one to three minutes' duration, with intervals of from four to six minutes of coma. Once during this time the rectal temperature rose to 107.3 F. It was combated by means of ice packs and ice enemas. After the cessation of the convulsions there was profound coma for forty-eight hours, followed by a gradual recovery of mental and muscular powers. Aphasia, which was present at first, gradually cleared, although slowly. A paralysis of the right arm and leg changed to a weakness, and finally there was complete restoration of function. The patient was discharged on the fortieth day after admission. The child is vigorous and healthy. The mother's mind was not recovered completely. At the present time, two and one-half years after the illness, her mentality is about that of a child of 12 or 14.

Johns Hopkins Hospital Bulletin, Baltimore

February, 1922, 33, No. 372

- *Immunologic Reactions of Bence-Jones Proteins. I. Differences Between Bence-Jones Proteins and Human Serum Proteins. S. Baynes-Jones and D. W. Wilson, Baltimore.—p. 37.
- *Yaws: Analysis of 1046 Cases in Dominican Republic. W. L. Moss and G. H. Bigelow, Cambridge, Mass.—p. 43.
- *Studies on Case of Chronic Acid Nephritis. R. H. Major, Detroit, Mich.—p. 56.

Adaptation of Bacteria to Growth on Human Mucous Membranes with Special Reference to Throat Flora of Infants. A. L. Bloomfield, Baltimore.—p. 61.

- *Dermoid Cysts of Ovary. Report of Four Cases. K. H. Martzloff, Baltimore.—p. 66.

Immunologic Reactions of Bence-Jones Proteins.—A crystalline Bence-Jones protein was used by Jones and Wilson for immunologic studies. By crystallization it could be freed from possible traces of serum proteins and thus permitted the use of a purified preparation to obviate the confused results which vitiate many immunologic experiments. Its quality as an antigen was easily established, and the reactions dependent on its antibodies were unequivocal. In contrast to this, the noncrystalline preparations of Bence-Jones proteins, precipitated from the urine by fractionation with salts or heat, gave the "cross" reactions usually obtained with mixed antigens. Comparisons between the Bence-Jones proteins of normal human serum were made by the use of precipitin, complement fixation and anaphylactic reactions. The precipitin reactions were extended by the method of the absorption of antibodies and the anaphylactic reactions were submitted to analysis by the Schultz-Dale method of the graphic record of the contraction of smooth muscle. The results of all these experiments were in accord, and allow the following conclusions to be drawn: (1) The crystalline Bence-Jones protein acts as a single antigen. (2) The noncrystalline preparation of Bence-Jones proteins, isolated from the urine by salting-out or other precipitation methods, contain traces of serum proteins. (3) The Bence-Jones proteins are immunologically different from the proteins of normal human serum. (4) These differences between proteins from the same animal are further evidence in support of the conception that the specificity of proteins is not dependent upon their biologic origin, but due to their chemical constitution.

Yaws.—At the request of the military government of the Dominican Republic the School of Tropical Medicine, Harvard University, sent a commission consisting of Drs. A. W. Sellards, W. L. Moss and G. H. Bigelow to Santo Domingo during the summer of 1920 to study yaws. The results of the observations made are herewith presented in abstract.

Pathology of Chronic Acid Nephritis.—In the case of chronic acid nephritis studied by Major the kidney lesion present was that of a pure tubular nephritis. No edema was noted clinically and no anasarca or ascites was present at necropsy. No symptoms of uremia were present, and the patient during the greater part of his illness felt comparatively well. The urine output following a temporary depression was high, but the urine itself was of low specific gravity and the excretion of nitrogen, chlorids, phosphate, creatin, uric acid and urea was markedly diminished. Glycosuria appeared from time to time but it bore no apparent relationship to the amounts of blood sugar present. The study of blood chemistry showed very high values for urea, inorganic phosphates, amino-acids and creatinin and values higher than normal for uric acid. Determinations of the carbon dioxide content of the blood plasma showed definite evidence of acidosis which responded promptly to alkali therapy.

Dermoid Cysts of Ovary.—The four cases reported by Martzloff were: (1) A small dermoid cyst accidentally discovered by needling an enlarged ovary. (2) A large dermoid of the left ovary; a small dermoid cyst of the right ovary. (3) A dermoid cyst in the wall of a large multilocular ovarian cystadenoma. (4) A spinal cell carcinoma developing in a dermoid cyst of the ovary.

Journal of Infectious Diseases, Chicago

February, 1922, 30, No. 2

- Metabolism of *B. Welchii*, *Vibrio Septique*, *B. Fallax*, *B. Tertius*, *B. Tetani*, *B. Pseudo-Tetani*, *B. Botulinus*, *B. Bifermentans*, *B. Oedematiens*, *B. Aerofoetidus*, *B. Sporogenes*, *B. Histolyticus* and *B. Putrificus*. Studies in Bacterial Metabolism, XLIV-LV. A. I. Kendall, A. F. Day and A. W. Walker, Chicago.—p. 141.
- Significance and Quantitative Measurement of Nitrogenous Metabolism of Bacteria. Studies in Bacterial Metabolism, LVII. A. I. Kendall, Chicago.—p. 211.
- Nitrogenous Metabolism of *B. Dysenteriae* (*Shiga*) *Bacillus Typhosus*, *B. Paratyphosus Alpha* and *B. Paratyphosus Beta*. Studies in Bacterial Metabolism LVIII-LXI. A. I. Kendall and R. C. Haner, Chicago.—p. 225.

- Nitrogenous Metabolism of *Bacillus Coli*. Studies in Bacterial Metabolism. LXII. A. I. Kendall and R. S. Bly, Chicago.—p. 237.
- Nitrogenous Metabolism of *Schmitz Bacillus*. Studies in Bacterial Metabolism LXIII. A. I. Kendall, R. C. Haner and R. S. Bly, Chicago.—p. 245.
- Nitrogenous Metabolism of *Bacillus Alkaliscens*. Studies in Bacterial Metabolism LXIV. A. I. Kendall and A. A. Day, Chicago.—p. 248.
- Nitrogenous Metabolism of *Bacillus Proteus*. Studies in Bacterial Metabolism LXV. A. I. Kendall, H. C. Cheetham and C. S. Hamilton.—p. 249.

Kentucky Medical Journal, Bowling Green

February, 1922, 20, No. 2

- Federal Care of Veterans of World War. M. Board, Louisville.—p. 89.
- Tuberculosis of Spine. R. T. Pirtle, Louisville.—p. 93.
- Progress of Preventive Medicine. W. J. Shelton, Mayfield.—p. 99.
- Gunshot Wound of Abdomen Followed by Sulphreic Abscess: Continued Report. C. Farmer, Louisville.—p. 104.
- Pellagra. B. E. Giannini, Kenvir.—p. 105.
- Urethral Obstruction: Urinary Retention and Extravasation. Case Report. O. Grant, Louisville.—p. 110.
- Treatment of Acute Mastoiditis. D. M. Griffith, Owensboro.—p. 111.
- Indications for Simple Mastoid Operation. H. G. Reynolds, Paducah.—p. 113.
- New Uses for Endoscopy. C. E. Purcell, Paducah.—p. 118.
- Associated Diseases of Eye and Nasal Accessory Sinuses. C. DeWeese, Lexington.—p. 121.
- Chicken Bone in Rectum. Case Report. B. C. Frazier, Louisville.—p. 124.
- Diagnosis and Treatment of Diphtheria. J. F. Dunn, Arlington.—p. 124.
- Neurosyphilis: Case Report. S. G. Dabney, Louisville.—p. 126.
- Blood Pressure. B. S. Rutherford, Bowling Green.—p. 126.
- Radiation in Pelvic Disease. D. Y. Keith, Louisville.—p. 128.
- Medical Science and Medical Societies. E. Barr, Owensboro.—p. 131.
- Diagnosis of Peripheral Nerve Injuries: Preliminary Report on Course of Recovery and End Results. C. C. Coleman, Richmond, Va.—p. 132.
- Vital Statistics and Medicine. S. R. Roberts, Atlanta, Ga.—p. 138.

Medical and Chirurgical Faculty of Maryland Bulletin, Baltimore

December, 1921, 14, No. 3

- Electrochemical Theory of Normal and Certain Pathologic Processes with Clinical Applications. G. W. Crile.—p. 21.

Medical Record, New York

Feb. 11, 1922, 101, No. 6

- Chronic Arthritis. L. W. Ely, San Francisco.—p. 223.
- Treatment of Cases of Ulcerative Colitis. A. Bassler, New York.—p. 227.
- Synergistic Analgesia; Its Administration in Operative Gynecology. J. M. Rector, Jersey City, N. J.—p. 230.
- Use and Abuse of Local Support, Also Motor Reduction in Human Readjustment or Orthokinetics. J. M. Taylor, Philadelphia.—p. 232.
- Recent Fractures of Nose; How to Diagnose and Treat Them. W. W. Carter, New York.—p. 237.
- Endocrine Aspect of Female Sterility. A. Jacoby, New York.—p. 239.
- Antecedent Function of Tonsil. J. A. Hagemann, Pittsburgh.—p. 241.

Endocrine Aspect of Female Sterility.—It is apparent that the chief factor in the production of sterility is a dysfunction of the ovary. A careful examination of the individual will usually reveal the gland or glands responsible for or participating in the ovarian deficiency, which are usually the pituitary, thyroid and suprarenals. The dysfunction of one or the other or several of these glands produces conditions which make it impossible to carry through the entire sequence of pregnancy from ovulation to embedding and growth of the ovum. That these conditions may be improved by the use of the proper gland extracts is certain. Cases are cited by Jacoby to call attention to a large class of cases which heretofore were either dilated or curetted or subjected to mutilating operations on the cervix, or else were put off in the hope that nature would ultimately effect the desired result. Every case of sterility in which gross pathologic conditions can be excluded warrants a careful study of the individual with a view to determining any malfunction of the endocrine system and the use of the indicated extracts for prolonged periods. In this way many a sterile female may become fecund, a result gratifying alike to patient and physician and a distinct asset to humanity.

New Jersey Medical Society Journal, Newark

February, 1922, 19, No. 2

- Importance of Careful Diastolic Blood Pressure Observations in Cardio-renal Diseases; Report of Cases. C. L. Andrews, Atlantic City.—p. 33.
- Coordination Need for Future Progress in Public Health. C. V. Craster, Newark.—p. 39.

- Lincoln and His Relations to Doctors. E. W. Markens, Newark.—p. 44.
- False Cults. W. G. Bailey, Camden.—p. 47.
- *Familial Epistaxis with and Without Skin Lesions. H. I. Goldstein, Camden, N. J.—p. 50.
- Case of Uterine Inversion. M. A. Swiney, Bayonne, N. J.—p. 51.

Familial Epistaxis.—Goldstein adds three cases of familial epistaxis to those previously reported. A father, son and daughter were affected. The father's past history is negative, except that he has had frequent attacks of nose bleed for many years. In the past three or four years he has been complaining of severe headaches, particularly a left hemi-crania. He had several telangiectatic lesions, one or two on the neck and about thirty-five or forty pigmented spots, dark brown in color, scattered over the neck, trunk and arms. The daughter, aged 8, had thirty-seven small brownish spots scattered over the trunk, neck and legs. One small telangiectatic spot about two inches below the right ear on the side of the neck and one at exactly the same distance below the left ear. Numerous very fine dilated capillaries (arborescent and spiderlike) were present over both cheeks, and a few dilated capillaries were seen over the left nasal ala. One dilated capillary was visible over the sternal end of the right clavicle and one over the right shoulder. There were some visible capillaries over the space between the left scapular spine and vertebrae. The son, aged 6, had a pale pink nevus on the back of the neck, a "birthmark" over the middle of the back and twenty-eight brownish spots scattered over the body, resembling dark pigmented freckles. There was one area of dilated capillaries over the left cheek.

Southwestern Medicine, Phoenix, Ariz.

February, 1922, 6, No. 2

- Cardiac Irregularities. E. A. Newton, Los Angeles.—p. 39.
- *Unusual Lung Infections. G. B. Gilbert, Colorado Springs, Colo.—p. 43.
- Radiation in Pelvic Cancer. A. Soiland, Los Angeles.—p. 47.
- Tuberculosis Patient; As a Surgical Risk. G. E. Yount, Prescott, Ariz.—p. 49.
- Problems in Antituberculosis Work. C. O. Giese, Colorado Springs, Colo.—p. 56.
- *Diaphragm in Physical Diagnosis. E. A. Duncan, El Paso, Tex.—p. 62.
- Treatment of Syphilis. C. S. Vivian, Phoenix, Ariz.—p. 66.
- Protective Medical Measures. Z. Causey and J. F. Martin.—p. 69.

Aspergillosis and Blastomycosis of Lung.—Gilbert reports cases of aspergillosis, blastomycosis, streptothricosis and syphilis of the lung.

Signs of Inflammation of Diaphragm.—Exclusion of diaphragmatic inflammation Duncan states is necessary in the diagnosis of acute surgical diseases of the abdomen. Pain in the diaphragm or its serous coats is referred to the neck when the central portion of the dome is involved, and to the lower thorax when the irritation is at the outer diaphragmatic margin.

Surgery, Gynecology and Obstetrics, Chicago

February, 1922, 34, No. 2

- Synovial Membrane Tumors of Joints. F. W. Hartman, Temple, Texas.—p. 161.
- Carcinoma of Prostate. B. S. Barringer, New York.—p. 168.
- Medical Education. J. B. Deaver, Philadelphia.—p. 177.
- Closure of Abdomen without Drainage after Cholecystectomy and Cholecystotomy. H. M. Richter, Chicago.—p. 180.
- Relative Merits of "Ideal Cholecystotomy," Cholecystectomy and Cholecystostomy. A. M. Willia, Richmond, Va.—p. 183.
- Thyrotoxicosis. J. M. Blackford, Seattle, Wash.—p. 185.
- *Histology and Mortality in Tumor of Bladder. A. J. School, Rochester, Minn.—p. 189.
- Dilatation of Colon Simulating Hirschsprung's Disease. J. A. H. Magoun, Rochester, Minn.—p. 198.
- Multiple Primary Carcinoma of Pylorus and of Ectopic Gallbladder. M. A. Rubin, Stockholm, Sweden.—p. 201.
- Ureteral Stricture in Female. M. N. Wynne, Minneapolis.—p. 208.
- *Tuberculous Appendicitis: Report of Case. A. H. Noehren and T. Mueller, Buffalo.—p. 215.
- Abdominal Surgeon of Future. T. S. Cullen, Baltimore.—p. 217.
- *Thrombosis of Oviducal Segment of Utero-Ovarian Artery. Review of Literature. F. D. Smythe, Memphis.—p. 220.
- Insufficiency (Eventration) of Diaphragm. W. Lerche, St. Paul.—p. 224.
- *Choice of Operation in Inguinal Hernia. P. G. Skillern, Philadelphia.—p. 230.
- *Familial Occurrence of Undescended Testes. B. C. Corbus and V. J. O'Connor, Chicago.—p. 237.
- *Carcinoma of Bladder with Bone Metastases. H. L. Kretschmer, Chicago.—p. 241.
- *Sarcosporidiosis Involving Bone. S. M. Cone, Baltimore.—p. 247.

- *Umbilical Cord. J. P. Gardiner, Toledo, Ohio.—p. 252.
Rupture of Uterus During First Stage of Labor. W. C. Swayne, Bristol, England.—p. 257.
Technic of Operations on Thyroid. G. W. Crile and W. E. Lower, Cleveland.—p. 258.
*Closure of Large Hernial Defects in Upper Abdomen. R. E. Farr, Minneapolis.—p. 264.
Treatment of Fracture of Neck of Femur with Abduction Traction Splint. L. S. Kemo, Canton, Mass.—p. 266.
Electrical Breast Pump. B. Van Hoosen, Chicago.—p. 268.
*Traumatic Synovitis of Knee Joint: Its Treatment. R. F. Metcalfe, Fort Sam Houston, Texas.—p. 271.
Treatment of Pregnancy Complicated by Valvular Heart Disease. N. S. Heaney, Chicago.—p. 272.

Tumors of Bladder.—Two hundred and sixteen cases of bladder tumor are analyzed by Scholl. Of 168 epithelial tumors removed at operation three were benign papillomas. The three patients are alive on an average of five years after operation. There were seventy-one malignant papillomas and ninety-four solid carcinomas. Forty-five of the patients with malignant papilloma are alive on an average of three years and three months since their operation in contrast to twenty-seven of the patients with solid carcinoma who are alive on an average of two years and three months. The incidence of recurrence following operation on patients for solid carcinoma is much greater than that for malignant papilloma. Squamous cell carcinomas of the bladder are extremely malignant and rapidly fatal. Adenocarcinomas are about as severely malignant as papillomas. Simple angiomas of the bladder may grow very large. Generally myomas occur in young persons. Sarcoma is probably the rarest and most malignant of vesical tumors. It occurs in middle aged persons, metastasizes extensively, and has a tendency to recur rapidly. The one sarcoma in the series was seen at an inoperable stage.

Tuberculous Appendicitis.—In the case reported by Noehren and Mueller the absence of temperature elevation and the feeling of a mass were of interest. Both are characteristic of the hyperplastic type of tuberculosis although even in this there is usually some afternoon temperature. With the pulmonary lesion, the normal temperature, the mass, the absence of rigidity and the chronicity of the condition, the diagnosis ought to be made with a reasonable amount of confidence.

Thrombosis of Oviducal Segment of Utero-Ovarian Artery.—The symptoms in Smythe's case led to a preoperative diagnosis of ectopic pregnancy, left tube, with rupture or abortion. On entering the peritoneal cavity it was observed that the cavity was entirely free from blood. The uterus was larger and more vascular than normal. The right tube and ovary were normal. The left tube was three times its normal size, was greatly congested and very red. The fimbriated extremity was closed though the ostium was not sealed by adhesions. The left broad ligament was edematous and very much thickened. The left ovary was about the size of a hen's egg, prolapsed and lying very close to the uterus, on the left side. The left tube and ovary with a good portion of the upper part of the broad ligament was removed. Section of the ovarian artery, beginning in the thick portion of the broad ligament, showed a blood clot, which could be traced throughout the entire length of artery contained in the specimen. The clot was fairly hard and apparently partially organized.

Operation for Inguinal Hernia.—The essential features of the operation practiced by Skillern are free exposure and thorough cleaning of Poupart's ligament, Gimbernat's ligament, the triangular fascia, the pubic head of the rectus enclosed in the linea semilunaris, the linea semilunaris itself and the aponeurosis extending laterally from it; firm reconstruction obtained by developing a finger-like cylinder of the musculo-aponeurotic tissue just mesial to and above the thinned out conjoined tendon and internal oblique-muscle fibers, suturing this cylinder to Gimbernat's and Poupart's ligaments from the pubic bone to beyond the internal ring, fastening the lower flap of external oblique aponeurosis down on the cylinder and the upper flap down on the lower, thus imbricating the two flaps and taking the strain away from the first row of sutures; bringing the cord out somewhat lateral to the internal ring, preventing constriction of it and transposing it to the surface of the imbricated external oblique flaps; and finally obliteration of dead spaces by suturing the edges of the fibrous deep layer of the superficial

fascia to each other and down on the imbricated external oblique aponeurosis. The postural method advocated by Lyle, which relieves tension both during and after the operation, should be practiced.

Familial Undescended Testes.—The cases of six brothers with testicular anomalies are reported by Corbus and O'Conor. Father and mother were normal in every way. One sister is normal; a second sister gives evidence of endocrine disturbance of sex character.

Carcinoma of Bladder with Bone Metastases.—Three of Kretschmer's five cases showed that bone metastases can occur relatively early. Cystoscopic examination showed tumors that were relatively small and that from the cystoscopic appearance were ideal cases for wide resections. These three cases further demonstrated clearly the necessity for careful roentgen-ray studies of all cases of carcinoma of the bladder for the presence or absence of bone metastases before the patient is subjected to an extensive operation, since the uselessness of operating in such cases is apparent. The same statement is true if a course of radium treatment is decided on. Necropsies were performed in three of these cases and metastases were found in the skin, in the glands in the perivesical fat, in the bony pelvis; in the ribs; in the mesenteric, retroperitoneal, inguinal and tracheobronchial glands, in the spine and in the liver.

Sarcosporidiosis Involving Bone.—A painless swelling of the right thigh and left humerus was found to be caused by a sarcosporidium. The bone tumors proved to be bone cysts containing many sarcosporidia. Cone reproduced the disease experimentally in animals. He describes the parasite in all of its forms from the round, oval, sickle-shaped, nucleated and nonnucleated, granular or hyaline sporozoites to the elongated or round and oval sporocysts containing sporozoites. The chambered form first described by Miescher was also seen. In Cone's case the involvement was primarily in muscle, the bone being secondarily invaded. It would appear that the invasion was from the popliteal region as there was no bone remaining between the popliteal vessels and the cyst. It would appear that the bone destruction was similar to what occurred in Virchow and Kanzow's case, being due to direct pressure and action of the parasite's growth. There is no evidence of purulent involvement of bone or soft parts.

Umbilical Cord.—The literature on this subject was analyzed by Gardiner and his conclusions are based on 35,712 cases. The average length of the normal umbilical cord is 55 cm. Any cord under 32 cm. is an absolutely short cord and any cord over 32 cm. and under the average length is a relatively short cord. In a vertex presentation, the placental insertion of the cord must not be farther than 5 cm. above the superior strait in order that the fetus be born without traction on the umbilical cord, and the cord must be 32 cm. in length. In a breech presentation, in order that the fetus be born without traction on the umbilical cord, the cord must be 55 cm. in length. In a vertex presentation with a loop of the cord about the neck, in order that the fetus be born without traction of the umbilical cord, the cord must be 76.50 cm. in length. In a vertex presentation with a coil of the cord about the neck, in order that the fetus be born without traction on the umbilical cord, the cord must be 93.50 cm. in length. In a breech presentation with a loop of the cord about the neck, the loop becomes a spiral and very little needs to be added to the length of the cord. In a breech presentation with a coil of the cord about the neck, in order that the fetus be born without traction on the umbilical cord, the cord must be 101.50 cm. in length. The etiology of the coiling of the cord is not yet known but it is generally accepted that excessive liquor amnii, a long cord, a small sized fetus and the activity of the fetus are factors which make for coiling of the cord. There is a coiled cord in every 5.5 births.

Closure of Large Abdominal Defects.—A flap composed of pectoral fascia and a considerable amount of muscle has been used by Farr to effect a perfect closure of an abdominal defect.

Treatment of Traumatic Synovitis of Knee Joint.—Forty-eight hours after the injury Metcalfe aspirates the knee joint until no more serum or blood is obtained. The leg is then

put in extension, on the inclined plane. In nine or ten days, the extension is removed, and the patient is allowed to get up and to start walking. In a large majority of cases, this ends his treatment. He is returned to duty by the end of the thirteenth or fourteenth day and does not come back on account of further swelling of the knee.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Single case reports and trials of new drugs are usually omitted.

British Journal of Surgery, Bristol

January, 1922, 9, No. 35

- Tube Skin Flap in Plastic Surgery. H. P. Pickerill and J. R. White.—p. 321.
 Tube Flap and Tube Graft in Facial Surgery. H. P. Pickerill.—p. 321.
 Use of Tube Pedicled Skin Graft in Surgery of Limbs. J. F. White.—p. 326.
 *Surgical Pathology of Hypernephroma: Origin and Symptomatology. H. W. S. Wright.—p. 338.
 *Pseudocoxalgia. H. Platt.—p. 366.
 Nonunion of Fractures. H. J. Waring and E. T. C. Milligan.—p. 408.
 Carcinoma of Jejunum and Ileum. Report of Cases. R. Johnson.—p. 422.
 *Ligation of Innominate Artery for Innominate Aneurysm. C. Ballance.—p. 438.
 Radical Cure of Inguinal Hernia in Children; Embryonic Rests Found Associated with Sac. A. MacLennan.—p. 445.
 Restoration of Nose by Transplantation of Skin from Forehead in 1881. T. P. Teale.—p. 449.
 Gastric Crises of Tabes Dorsalis: Surgical Treatment. R. C. Shawe.—p. 458.
 Case of Multiple Pulsating Bone Tumors. J. R. White.—p. 458.
 Circulus Vitiosus for Fourteen Years after Gastro-Enterostomy. W. G. Spencer.—p. 462.
 Torsion of Gallbladder. H. Lett.—p. 464.
 Torsion of Hydatid of Morgagni. G. H. Colt.—p. 464.
 Congenital Stricture of Anus Persisting into Adult Life: Acquired Megalocolon. G. Robertson.—p. 465.
 Chronic Duodenal Ileus. P. Lockhardt-Mummary.—p. 467.

Hypernephroma.—Wright's paper represents part of a research into the pathology of tumors arising in the renal cortex of man and animals. Thirteen cases were investigated. By far the commonest initial symptom was hematuria. In eleven out of these thirteen cases it ushered in the disease. The hematuria is of two kinds. In some cases it is due to chronic interstitial nephritis caused by the pressure of the slowly advancing growth. It is not very profuse in amount, and it is intimately mixed with the urine. It is probably caused by venous congestion, pressure of the advancing growth blocking the smaller veins and leaving the lumen of the arteries intact. The second type of hematuria is much more profuse and is also associated with the passage of clots and renal colic. It is due to direct involvement of the pelvis by the growth, or to the invasion of one of the larger veins in the renal cortex. The next most common symptom is pain. In some form or other it occurred in eight of the thirteen cases. It may be divided into three types: (1) renal aching caused by distention of the pelvis, common to all renal conditions in which blockage of the outlet occurs; (2) renal colic associated with the passage of clots down the ureter, and (3) acute attacks of pain in the kidney, the result of a large hemorrhage into the growth. Colic in varying grades of severity occurred in five of the thirteen cases. Other patients had severe pain which was probably due to the passage of blood down the ureter, but it did not amount to true colic. Retention and difficulty of micturition occurred four times in this series. Frequency of micturition was twice mentioned. A tumor was palpable in ten cases. In diagnosis cystoscopy is of the greatest value. It rarely reveals any abnormality in the bladder, but blood can be seen coming from the affected kidney if the examination is made during an attack. The author has found that the indigocarmine test, in addition to the urea test, is one of the most useful for estimating the function of a single kidney. Two c.c. of a 0.4 per cent. solution of indigocarmine is injected into a vein. It should appear from the ureteric orifice of a normal kidney within ten minutes of the injection. The results of treatment are not very encouraging. Wright puts forward the view that the appearance usually labeled hypernephroma is a product of the malignant change of renal tubules, and forms one of the ways in which they react to a neoplastic stimulus.

Pseudocoxalgia.—Pseudocoxalgia, or osteochondritis deformans juvenilis coxae, is regarded by Platt as a definite entity representing the reaction of the metaphyseal region of the upper end of the femur to the stimulus of an infective agent of attenuated virulence. The condition is comparable with the one seen solely in adolescents, and which represents the reaction of the hip joint to an infective agent of a similar type. The whole cycle of radiographic changes is peculiar to pseudocoxalgia alone. They precede and outlast the clinical phenomena. The final picture is dominated by the deformation of the head of the femur, which is enlarged and flattened. The acetabulum in its final form can no longer contain the whole of the expanded head. Deformation of the head of the femur with flattening and expansion is seen also in conditions distinct from pseudocoxalgia during childhood. There is no evidence to show that in these conditions the typical structural osseous changes of pseudocoxalgia have preceded the stage of flattening. At certain stages the clinical and radiographic pictures of the two groups of affections may show considerable resemblance. This applies particularly to cases of primary tuberculous osteomyelitis of the femoral neck. In the conditions known as tarsal scaphoiditis (Köhler's disease), and apophysitis of the tibial tubercle (Osgood-Schlatter disease), bony changes parallel to those in pseudocoxalgia are found. Conservative treatment directed toward the elimination weight bearing has no proved influence on the train of morbid changes, but its application is indicated during the stage of prominent symptoms. Operative treatment directed toward the removal of the dominant lesion has no present place in the therapeutics of this disease.

Ligation of Innominate Artery.—Ballance emphasizes that there are cases of innominate aneurysm which are suitable for proximal ligation, and that these can be diagnosed with the means at present at our disposal. Distal ligation causes the aneurysm to become a diverticulum of the aorta, and so increases the pressure within it, and should not be done when proximal ligation is possible. The presence of the aneurysm necessitates removal of a part of the sternum in order to gain a free and clear exposure of the vessel below the aneurysm. The ligation of the innominate may be accomplished safely and surely if the ligatures are tied in a stay-knot without rupturing the coats.

British Medical Journal, London

Feb. 4, 1922, 1, No. 3188

- *Some Aspects of Abdominal Emergencies of Childhood. J. Fraser.—p. 173.
 *Fats in Relation to Genesis of Goiter. R. McCarrison.—p. 178.
 *Recognition of Aortic Incompetence. E. M. Brockbank.—p. 181.
 *Treatment by Rest of Acute Infection of Knee Joint. J. O'Connor.—p. 182.
 *Case of Jejunocolic Fistula Following Gastro-Enterostomy. C. Frankau.—p. 184.
 *Serologic Investigation of Oriental Sore. W. H. McKinstry.—p. 185.
 Treatment of Rat Bite Fever with Novarsenobillon. N. Briggs.—p. 185.
 Arthritis Deformans as Deficiency Disease. G. C. Belcher.—p. 186.
 Resuscitation After Apparent Death. A. H. Southam.—p. 186.
 Intractable Vomiting Due to Cerebral Syphilis. R. H. Hodges.—p. 187.

Abdominal Emergencies of Childhood.—The common clinical conditions which Fraser discusses here as constituting the "acute abdominal emergencies of childhood" are: acute appendicitis, pneumococcal peritonitis, intussusception, acute intestinal obstruction, volvulus and strangulated hernia.

Fats as Cause of Goiter.—The facts brought forward by McCarrison as bearing on the problem of the genesis of goiter, indicate that the composition of the food has an important bearing on it; that the food must be considered both in relation to its content of available iodine and in relation to its content of fats; that the thyroid may enlarge not only from insufficient intake of iodine (a comparatively rare occurrence), but from relative insufficiency of iodine consequent on the presence of an excess of certain edible fats or of free fatty acid (oleic) in the digestive tract; that the food must be considered in relation not only to the normal processes of digestion but in relation to abnormal processes that may arise from the introduction of bacteria into the digestive tube; and that variations in histologic types of goiter may result from variations in the composition of a goiter inducing food. They provide, too, a new point of view

from which to consider the genesis of simple goiter, of sporadic goiter, and of exophthalmic goiter.

Diagnosis of Aortic Incompetence.—When a heart is enlarged, and beating regularly, or fairly regularly, and at a moderate rate, and there is no increase of blood pressure, Brockbank asserts aortic valvular disease must be suspected and auscultatory evidence sought for, not only over the aortic cartilage but also down the left border of the sternum, and especially over the tricuspid region of the precordia where the earliest evidence of aortic incompetence is most likely to be found.

Rest in Treatment of Infected Knee Joint.—O'Connor protests against any form of movement in acute septic arthritis until the microbic fight has terminated. This period may be recognized by the cessation of discharge, pain, tenderness, fever and accelerated pulse; then, and not until then, he advocates encouraging the patients to move the knee joint, gently, once or twice daily, and gradually to increase the number and extension of same.

Jejunocolic Fistula Following Gastro-Enterostomy.—Frankau cites the case of a man on whom a gastro-enterostomy was performed in 1914. The ulcer healed, but a persistence of, or a recrudescence of, the abnormality of the gastric juice caused the formation of a second ulcer. The second ulcer healed after complete diversion of the stream of gastric contents by division of the pylorus; but as a result of this proceeding, and in spite of dietetic and medical treatment, a jejunal ulcer formed from the same causative factor, aided by a dietetic error. The jejunal ulcer was of an acute type. No symptoms of jejunal ulceration were noted until the fistula was established.

Wassermann Reaction Absent in Oriental Sore.—The blood Wassermann test was made by McKinstry in twenty-eight cases of oriental sore and only one case gave a positive reaction. This case had points of clinical interest which helped to establish the fact that a positive Wassermann reaction is practically never found in oriental sore without concomitant syphilis.

Dublin Journal of Medical Science

January, 1922, 4, No. 23

- *Occurrence of Urea in Nature. E. A. Werner.—p. 577.
 *Unusual Case of Mikulicz Disease. T. G. Moorhead.—p. 595.
 Case of Spinal Caries and Compression Myelitis: Lateral Sclerosis. J. Moore.—p. 598.
 Case of Gumma of Liver. V. M. Syngue.—p. 603.

Occurrence of Urea in Nature.—Werner asserts that cyanic acid must be formed in the liver, otherwise urea would not be found there. The presence of urea is to him the most convincing evidence that cyanic acid was its precursor. The formation of cyanic acid by oxidation of carbon compounds in the presence of ammonia is referred to in connection with urea formation in plants, but it is pointed out that cyanates and cyanic acid are very resistant to further oxidation. In view of the facts presented it seems reasonable to Werner to conclude that cyanic acid is the final product of the oxidation of the cleavage products of the proteins in the body. The reciprocal action of animal and plant life in relation to carbonic acid and carbon assimilation is well recognized. From carbon dioxide and water plants build up complex carbohydrates from which animals derive energy in oxidizing them to the two simple substances from which they were formed. Similarly plants absorb ammonia which is oxidized in the presence of the carbohydrates to cyanic acid, which is used in the building up of protein matter. Animals, by hydrolytic and oxidation changes, break down proteins to cyanic acid and ammonia, which are excreted as urea, from which plants again derive the necessary material to continue the cycle of changes.

Case of Mikulicz Disease.—Moorhead records a case in which the early history was unusual. The patient was a man, aged 48, who at 37 began to have persistent sore throat. After six years he also developed dysphagia. The tonsils were enormously enlarged. The tonsils were removed. The structure of the tonsil (follicular structure) had entirely disappeared. It was a lymphoma. A year later he became

deaf and had difficulty with nasal breathing because of an obstruction in the nose. A month later he began to observe the development of lumps all over his body.

International Journal of Psycho-Analysis, London

September-December, 1921, 2, Part 3/4

- A Man's Unconscious Phantasy of Pregnancy in Guise of Traumatic Hysteria. M. J. Eisler, Budapest.—p. 255.
 On Technic of Child-Analysis. H. von Hug-Hellmuth, Vienna.—p. 287.
 Anal-Erotic Factor in Religion, Philosophy and Character of Hindus. O. Berkeley-Hill, Ranchi, India.—p. 306.
 Significance of Psychoanalysis in History of Science. J. S. Van Teslaar, Brookline, Mass.—p. 339.
 Anal-Erotic Character Traits in Shylock. I. H. Coriat, Boston, Mass.—p. 354.
 Psycho-Analysis and Psychiatry. A. Starcke, den Dolder, Holland.—p. 361.
 Birth of Hero Myth from Kashmir. M. R. C. MacWatters, Lucknow, India.—p. 416.
 Persons in Dreams Disguised as Themselves. E. Jones, London.—p. 420.
 An Unanalyzed Case. Anal Eroticism, Occupation and Illness. J. Rickman, London.—p. 424.
 Some Remarks on a Dream. A. Stern, New York.—p. 427.
 Example of Displacement of Original Affect Upon Play. M. K. Isham, New York.—p. 430.
 Two Confinement Dreams of a Pregnant Woman. J. Marcinowski, Heilbrunn.—p. 432.

Journal of Tropical Medicine and Hygiene, London

Jan. 16, 1922, 25, No. 2

- Plague as Public Health Problem in City of Bangkok. R. W. Mendelson.—p. 13.
 Bilharzia Infection in Pool, River and Lagoon. F. G. Cawston.—p. 16.
 *Cure of Malaria. V. S. Hodson.—p. 18.

Place of Natural Resistance in Cure of Malaria.—Hodson comments on the almost universal reliance placed on quinin as the one and only means of effectively treating malaria and the almost complete absence of reference to the natural resistance of the human body, and to the fact that no real attempt is made to use this powerful factor in the prevention and cure of malaria. That this factor exists and is of the greatest value is obvious to any one who has lived in unhealthy areas where natives have no chance of getting quinin and yet enjoy a high degree of health. This factor is also clearly exceedingly variable, and increases and decreases in the same individual according to circumstances. Having these facts in view, Hodson has gradually worked out a system of treatment for malaria which gives excellent results. On the admission of a malaria patient he administers an intramuscular injection of quinin, 15 grains, and gives a purge. The intramuscular injection is repeated on the second and third days, and is then stopped for four days, during which time any intestinal parasites which lend themselves to medical treatment are dealt with, and bilharzia treatment with tartar emetic is begun, but not before the temperature is normal. In an average case of an Englishman or an individual foreign to the Sudan, Hodson gives injections on three consecutive days, or 20 grains a day by the mouth, in two doses, after food, on four consecutive days. The full treatment is continued for four weeks, commencing the administration of quinin on the same day of the week as long as treatment lasts. After four weeks' treatment the dosage is reduced to two days for injections and three days by the mouth, and after two weeks, this dosage is again reduced to one day injection, and two days' oral treatment for a further three weeks. This generally completes the treatment in an average case, but should the spleen persist or should any recurrence of fever occur, the course is modified to suit the circumstances of the case. The exciting causes of relapses and recurrences Hodson says are: Fatigue, excess, exposure, or concomitant infection by intestinal or other parasite. The treatment for relapses occurring during treatment varies, but, speaking generally, the patient is put on extra quinin for the week of the relapse and resumes the ordinary treatment the next week. When the relapse occurs after treatment has ceased Hodson gives a modified course, which is considerably shorter than the original period of treatment.

Medical Journal of Australia, Sydney

Jan. 7, 1922, 1, No. 1

- Series of Cases Closely Resembling Typhus Fever. F. S. Hone.—p. 1.
 Pregnancy and Pyosalpinx. H. H. Schlink.—p. 13.

Encéphale, Paris

December, 1921, 16, No. 10

- *Amaurotic Idiocy. G. Marinesco.—p. 561. Conc'n.
 *Visual Aura with Brain Lesion. Roger and Reboul-Lachaux.—p. 573.
 *Law of Symbolism in General Psychiatry. Hesnard.—p. 579.
 *Neurosyphilis Simulating Dementia Praecox. C. I. Urechia and N. Rusdea (Cluj, Roumania).—p. 587.
 *Chronic Mania. J. Hamel and P. Vernet.—p. 596. Conc'n.
 Mental Disturbance in Trigeminal Neuralgia. H. Fauvel.—p. 601.
 Hensen's Views on Aphasia and Acalculia. André-Thomas.—p. 605.

Amaurotic Idiocy.—Marinesco concludes this study of the pathologic histology and pathogenesis of amaurotic idiocy with four plates which apparently sustain his assumption that pathologic changes in the intracellular ferments are responsible for the disease. The cell nucleus seems to be intact. The familial character is explained by the diastatic activity of the mitochondria.

Visual Aura.—The epileptic seizures in the case described are preceded by a brief period of blue vision in the blind area of the visual field, the man of 45 having long had right homonymous hemianopia. These visual auras sometimes occurred as equivalents for seizures. The mechanism is discussed.

Symbolism in General Psychiatry.—Hesnard remarks that as the psychoanalysis school is extending the conception of symbolism in a rather unwarranted manner, it is important to estimate the actual scientific import of symbolism in psychopathies, which he proceeds to explain.

Schizophrenoid Cerebral Syphilis.—Urechia and Rusdea cite authorities and their own experience to confirm that the symptoms of dementia praecox may be observed in the course of syphilitic disease of the brain and general paresis. These schizophrenoid symptoms may be transient or durable. In one case, from onset to death, the clinical picture was that of dementia praecox through the entire six year course. Cases are known up to twenty years' duration, and lumbar puncture or necropsy first cleared up the diagnosis. In some of the cases both the Wassermann reaction and the spinal fluid findings became negative during a stationary phase. Catatonia is evidently the result of a certain injury of a certain part of the brain, but the morbid agent causing the injury need not always be the same.

Chronic Mania.—Hamel and Vernet here conclude their study of chronic mania. There is usually a history of acute mania, but they emphasize the rarity of this outcome of acute mania. In the Maréville asylum, with 1,650 patients, there were only eight cases in all of this type.

Journal de Chirurgie, Paris

July, 1921, 18, No. 1

- Fractures of Neck of Femur and Coxa Vara in Children and Adolescents. R. Bloch.—p. 1.
 Technic for Entero-Anastomosis. R. Toupet.—p. 41.

August, 1921, 18, No. 2

- *Research on Autoplastics. L. Imbert.—p. 113.
 *Access to Left Hypochondrium. H. Constantini.—p. 130.

Autoplastic Operations.—Imbert discusses the mechanism of the circulation in the different layers of the skin, and shows how best to avoid interfering with this circulation. His illustrations of various ingenious methods of autoplastic and homoplastic operations include one in which a pedunculated flap from the leg of one young man was sutured to cover the stump of the right leg in another. This temporary parabiosis was perfectly tolerated, for twenty days, but the flap did not heal in place, probably from the devitalized condition of the tissues in the limb after amputation.

Thoraco-Abdominal Incision for Access to Left Hypochondrium.—Constantini gives an illustrated description of a method for what he calls *laparo-thoraco-phrenotomie* which is extrapleural and does not entail pneumothorax, while allowing ample access.

September, 1921, 18, No. 3

- *Congenital Luxation of the Patella. A. Mouchet and J. Durand.—p. 225.
 *Anterior Balanic and Penile Hypospadias. J. Madier.—p. 234.

Congenital Luxation of the Patella.—Mouchet and Durand refer to complete and irreducible luxation of the patella, and

report successful operative treatment in a bilateral case in a boy of 10. They reconstructed the patella apparatus by transplanting inward the anterior tuberosity of the tibia, after having drawn the patella apparatus through a buttonhole in the anterior capsule of the knee.

Hypospadias.—Madier relates that the Beck-von Hacker operation was applied in 15 of 17 cases of hypospadias in the last year. The outcome was perfect in all but 2; in one of these a minute, negligible fistula was left. The other was a partial failure, urine escaping through the fistula. The technique is illustrated.

October, 1921, 18, No. 4

- Surgery of the Tonsils. G. D. de Lamothe.—p. 337.
 Malignant Branchiomas. C. Lenormant.—p. 358.

November, 1921, 18, No. 5

- Anatomy and Surgery of the Parathyroids. H. Lorin.—p. 449.
 *Juvenile Deforming Osteochondritis of the Hip Joint. M. Lance, J. Andrieu and F. Cappelle.—p. 471.

Deforming Osteochondritis of the Hip Joint in Children and Adolescents.—Seventeen cases are described, with fifty-four illustrations. The fact that inherited syphilis was beyond question in such a large proportion suggests that this is more than a casual coincidence. Other infections may be incriminated in some cases. When syphilis is suspected, vigorous specific treatment may modify the prognosis materially. Complete restitution was realized by this means in some of the cases described. Others, not receiving this treatment in time, were crippled for life.

Journal de Médecine de Bordeaux

Dec. 10, 1921, 92, No. 18

- Diagnosis of Cancer of the Lung. Creyx.—p. 545.
 Large Foreign Bodies in Knee. F. Villar.—p. 549.
 Syphilis and Procreation. M. Favreau.—p. 551.
 *The Question of Compulsory Insurance Against Sickness. H. Verger.—p. 561.
 Treatment of Chronic Enteritis. J. Carles.—p. 566.

Dec. 25, 1921, 92, No. 19

- Herpes Zoster and Pseudotumor of Trunk. L. Charron.—p. 588.
 Tuberculosis plus Cancer in Gland. Duvergey and Jeanneney.—p. 589.
 Volvulus of Sigmoid Loop. Loubat.—p. 590.
 Secondary Subacute Endocarditis with Old Mitral Defect. Creyx and C. Massias.—p. 592.
 Sterilization of Infected Teeth. Cavalé and Marchive.—p. 594.

Compulsory Insurance Against Sickness.—See news item on page 591.

Paris Médical, Paris

Dec. 17, 1921, 11, No. 51

- *Some Rare Endocrine Disturbances. J. C. Mussio-Fournier.—p. 477.
 *Scoliosis a Medical Affection. Joland.—p. 481.
 Tetany in Typhoid in a Child. Delater.—p. 484.

Rare Forms of Endocrine Derangement.—The essentially variable character of the disturbances, simulating widely diverse affections, was the main feature of Mussio-Fournier's two cases and of eight reported to him by others. In one, the almost kaleidoscopic clinical picture from the age of 12 to 47 can be explained by fleeting congestion at various points, of endocrine origin, and predominantly from defective thyroid functioning, although the amenorrhea pointed to the ovaries, and certain other symptoms—which subsided under epinephrin—indicated participation of the suprarenals. In the second case, thyroid treatment was given, and at once all the symptoms subsided and have not returned. In Hutinel's case, edema developed at the menopause of a previously healthy active woman, tending to leanness rather than obesity. The edema was followed by hemiplegia. After six months of this, tentative thyroid treatment cured at once the hemiplegia, edema and menorrhagia. In his first case, at different times the woman presented swelling and pain in the femur, tibia, humerus and ribs, sometimes on one side and then on the other. These foci were extremely painful, and an operation was performed on several occasions, with absolutely negative findings, nothing being discovered but a focus of congestion.

Scoliosis a Medical Pathologic Condition.—Joland emphasizes that the strain of puberty, rapid growth and school fatigue are liable to entail conditions in the spine which may progress to irremediable scoliosis, but if taken in time will

yield to repose and hygiene, without necessity for orthopedic measures, which do actual harm during this phase. He says, "When the curvature straightens out as the trunk is bent, when suspension straightens the spine, or certain movements or attitudes have this effect, it is a crime to immobilize in a cast." This should be reserved for inveterate scoliosis which has resumed a rapid course after having been arrested for a time. Such cases are rare, and even then the cast should be merely for support. Correction of the curvature must not be expected of it; for this we must rely on the muscles, strengthened and trained.

Dec. 24, 1921, 11, No. 52

*Craniotabes in Infants. A. B. Marfan.—p. 493.
Uremia in Typhus. Benhamou et al.—p. 501.
Hydrothorax in Tuberculous Painter. S. Bloch and Mallet.—p. 503.
Indications for Tonsillectomy. Fréderescu-Riou.—p. 505.

Craniotabes.—Marfan explains that true craniotabes is of rachitic origin, as a rule, but it is the manifestation of a very early rachitis, beginning during intra-uterine existence or before the age of 3 months. At all ages, he adds, syphilis is the most common cause of rachitis. Rachitis of syphilitic origin is distinguished by its early onset, by the predilection of the lesions for the bones of the skull, and by the accompanying anemia and frequent chronic enlargement of the spleen. Rachitis with much deformity of bones is nearly always of syphilitic origin. When of other origin, the rachitis usually spares the skull and settles on ribs and epiphyses. With craniotabes, it is important to change the position of the infant's head, not letting it lie too long on one side or the back of the head. It may be wise to use a pillow with a hole in the center to avoid pressure on the occipital and parietal bones. The discovery of craniotabes calls for search for the cause and specific treatment. The time is past when it can be regarded as merely a sign of delayed ossification.

Presse Médicale, Paris

Jan. 11, 1922, 30, No. 3

Nature of Movements in Chorea. André-Thomas.—p. 25.
*Artificial Collaterals. E. Kramarenko and N. Dobrovolskaia.—p. 27.

Artificial Collaterals.—After resection or ligation of a large artery, the flow of blood can be reestablished by providing artificial collaterals. By utilizing some artery or arteries near by, the nourishment of the new collateral is insured. Dobrovolskaia has published different methods for adapting a small artery to fit to a large one. By slitting the smaller one for a short distance on each side, the edges of the stump flare apart and this allows them to be sutured, forming a much larger circumference than the lumen of the small vessel would allow otherwise. Another method is to use an artery that bifurcates, cutting it a little distance below the bifurcation and then slitting the crotch across from side to side. This provides an extensive margin, large enough to fit over the mouth of quite a large artery stump. The illustrations show the technic for this, and also for utilizing branches of the artery above and below the gap, shifting the branches from a centrifugal course to a lengthwise course parallel to the artery. A collateral can be formed of a small artery turned upward to join a descending branch. The artificial collaterals may enlarge later.

Jan. 14, 1922, 30, No. 4

Supernumerary Passages in Fallopian Tube. Jayle and Halpérine.—p. 33.
Incomplete Diagnosis of Scalp Disease. R. Sabouraud.—p. 34.
*Coxa Plana. F. Calot and H. Colleu.—p. 35.
*Standardization of Wassermann Test. L. Bory.—p. 38.
*Phenobarbital in Treatment of Epilepsy. L. Cheinisse.—p. 42.

Coxa Plana.—Calot and Colleu explain that the pathologic condition described by Legg, Calvé and Perthes, and known as juvenile osteochondritis or coxa plana, is in reality a transient phase of congenital subluxation of the hip joint. This congenital malformation of the hip joint is responsible likewise for certain cases of arthritis deformans of the hip joint, and certain other forms of hip joint disease in adolescents and adults. All these apparently widely diverse affections are related to each other the same as the chrysalis, the cocoon and the butterfly. The congenital pathogenesis explains logically a whole series of apparently conflicting phenomena.

Standardization of Wassermann Test.—Bory says that there are so many variables in the Bordet-Wassermann reaction that its actual standardization is not practicable.

Recent Publications on Phenobarbital.—Cheinisse quotes Ducosté's warning that phenobarbital, while it acts well on the convulsive element of epilepsy, strikes too strongly. It arrests the seizures, but it also checks the normal play of the nerve centers. It is liable to entail a physical and mental torpor, which is a decided drawback to the use of the drug. Ducosté wards this off by giving with it very minute doses of belladonna or caffeine. Golla has recently related that in thirty-six of 125 epileptics no benefit was derived from the phenobarbital, or the epilepsy was aggravated. Salomon has recently reported a death in status epilepticus six days after sudden suspension of the phenobarbital treatment, which had been given for four months with considerable improvement. The man then refused to continue it, as he ascribed certain intestinal symptoms to it. The seizures returned the day after the suspension.

Progrès Médical, Paris

Dec. 10, 1921, 30, No. 50

The Amniotic Fluid. H. Vignes.—p. 577.
Acute Rhinitis. H. Bourgeois.—p. 578.
Vaquez' Treatise on Heart Diseases. A. Clerc.—p. 583.

Revue de Chirurgie, Paris

1921, 50, No. 9-10

*Deformity of the Knee from Disease. L. Bérard.—p. 503.
*Metastatic Goiter. Idem and C. Dunet.—p. 521.
*Blocking the Plexus for Thyroid Operations. P. Santy and D. Bizot.—p. 546.
*Pain in Knee with Hip Joint Disease. G. Aigrot.—p. 555.

Correction of Vicious Ankylosis of Knee.—Bérard reviews the ultimate outcome after operative measures in eight cases of deformity of the knee from a tuberculous process in childhood. All were past the period of active growth at the time he operated, that is, over 16. In twenty-five years of experience he has never encountered a case of the complete cure of a tuberculous process in the knee, after the age of 16, under conservative measures alone, even long courses of heliotherapy. If immobilization and heliotherapy do not show distinct improvement in four or six months, it is useless to continue with this, although it is an excellent preparation for the operation that should then follow. In operating, if the ankylosis is not complete, the technic should be the same as for an active process, but with confirmed ankylosis the wedge to be cut out can be calculated from radiographs, as he shows in his illustrations. He ligates the vessels as he reaches them, applies a staple on each side, and leaves the plaster splint unmolested for forty-five days. A plaster dressing is then kept on for two months as the patient begins to walk with crutches. He removes the metal staples after three or four months, under a few drops of ethyl chlorid, although they can be left indefinitely. A shoe with a high sole and metal bar reaching half way up the thigh is worn for a year as a precautionary measure, but most of his patients discarded it by the sixth month. The simplicity and the perfection of this technic commend it. Two of his patients are doing the hard work on a farm without mishap. The amount of shortening was proportional to the extent of the primary lesion and the age at which it had developed.

Metastatic Goiter.—Bérard and Dunet summarize from the literature and their own experience a total of twenty-nine cases in which an apparently simple goiter induced metastasis in other organs. Their analysis of this material demonstrates, they assert, that the goiter was of a malignant nature in all. Serial sections of the primary growth will reveal this. There is no such thing as metastasis of a benign goiter, they reiterate.

Regional Anesthesia for Operations on the Thyroid.—Santy and Bizot describe their technic for bilateral paravertebral anesthesia of the cervical plexus and brachial plexus, which allows thyroidectomy or resection of a cancer of the esophagus with comparative ease and dispatch. In some of the cases cited the patient probably would not have been able to stand any other method of anesthesia. Their cooperation during the operation also facilitated matters.

Pain in the Knee with Ankylosis of Hip Joint.—Aigrot has seen the gonalgia develop early or late with hip joint disease, and even after ankylosis has been long established. Traction and overstrain are responsible for tardy gonalgia. Immobilization until the pains disappear, sparing the limb afterward, and wearing an orthopedic appliance may be advisable.

Revue de Médecine, Paris

November, 1921, 38, No. 11

Acquired Displacement of the Heart. L. Bard.—p. 511.
Cerebellar and Vestibular Syndromes. J. Levy-Valensi.—p. 524. Cont'd.

December, 1921, 38, No. 12

*Origin of Urobilinuria. M. Brulé and H. Garban.—p. 583.

Urobilinuria.—Brulé and Garban discuss the various theories proposed to explain the pathogenesis of urobilinuria. Their own research has demonstrated a number of facts which contradict the intestine-liver theory.

Revue Médicale de la Suisse Romande, Geneva

December, 1921, 41, No. 12

*Treatment of Hairy Nevi. C. du Bois.—p. 769.
*Multiple Primary Carcinomas. A. Renaud.—p. 773.
*Tardy Mortality of Epidemic Encephalitis. A. Repond.—p. 783.
*Gangrenous Stomatitis of Leukemic Origin. M. Alikhan.—p. 785.
*Absence of Internal Genitals in Woman. A. Starobinsky.—p. 790.
*Medical Ethics. Muret.—p. 792.
*Cocain Poisoning and Prophylaxis. C. Julliard.—p. 806.

Treatment of Hairy Nevi.—Du Bois' illustrations before and after show the practically complete cure of an extensive dark colored nevus, mostly covered with extremely heavy hairs, the nevus covering the area from the eyebrow nearly to the nostril of the girl of 17. He first destroyed the hairs and the hypertrophied follicles by electrolysis, and then the pigmentation nearly all disappeared under repeated applications of carbon dioxide snow. Local anesthesia with ethyl chlorid or injection of cocain could not be used, as it modified too much the anatomic arrangement. He was able to reduce the painfulness of the procedures by vigorous preliminary massage with a salve containing equal parts of menthol, phenol and cocaine, with a little epinephrin. No other treatment, radiotherapy, physical or chemical cauterization has ever given such good results as in this case, in his experience. The eyebrow is still abnormally heavy but the young woman wears her hair low on that side to conceal this, as she does not care to allow further electrolysis. The follicles in these hairy nevi are always exceptionally deeply embedded. The skin is also unusually thick, and the nevus is liable to spread and grow darker in color at puberty. Hence he advises the excision, early, of small hairy nevi.

Multiple Primary Carcinomas.—In Renaud's case an ulcer rodens of one temple had developed in the course of five or six years on a patch of senile keratosis. Then came a rapid carcinomatous growth on the other temple. They were of different malignant structure. He queries why multiple cancer is so rare. None of the prevailing cancer theories throw any light on this question.

Medical Ethics.—This is a lecture to undergraduates on medical deontology.

Schweizerische medizinische Wochenschrift, Basel

Jan. 12, 1922, 52, No. 2

*Indications for Hastening Delivery. H. Guggisberg.—p. 25.
The Oscillatograph. A. Jaquet.—p. 29.
Pathology of the Respiration. R. Staehelin.—p. 30. Conc'n.
Tests of Functional Capacity of Stomach. E. Fricker.—p. 38.
Obstetric Presentation of Twins. R. Schnyder.—p. 40.

Fetal Indications for Operative Hastening of Delivery.—Guggisberg declares that the fetal heart sounds are practically the sole criterion. Where the heart sounds can be heard regularly, 120 to 140 per minute, in the pauses between the labor contractions up to the final extraction, there is no danger for the life of the fetus in the overwhelming majority of the cases. Acceleration, regardless of its extent, shows some slight discomfort of the fetus, but is not a sign of danger. Preparations should be made ready to operate at any moment if the number drops to 120-100, and the operation should follow at once if the heart sounds drop below 100 during several pauses between contractions.

Annali d'Igiene, Rome

October, 1921, 31, No. 10

Study on Avitaminosis. G. Guerrini.—p. 597.
Sodium Fluorid for Sterilization of Organ Extracts. U. Paranhos (S. Paulo, Brazil).—p. 620.
Reliability of Intra-Eyelid Test for Echinococcosis in Cattle. A. Lanfranchi, L. Sani and I. Altara.—p. 624.
Collodion Sacs in Microbiology. L. Verney.—p. 626.

Archivio Italiano di Chirurgia, Bologna

December, 1921, 4, No. 5

*Echinococcus Disease in Cyrenaica. A. Mei.—p. 455.
*Lesions of Semilunar Cartilages of Knee. G. Pinardi.—p. 487.
*Cholelithotomy for Gallstones. A. Vecchi.—p. 511.
*Tumor of Lumbar-Sacral Skeleton. L. Gobbi.—p. 519.
*Pyuria and Hematuria of Obscure Origin. M. Bufalini.—p. 540.

Echinococcus Disease.—Mei's experience with echinococcus cysts among the Bedouin tribes of northern Africa has convinced him of the advantages of marsupialization of the cyst when it is large. He has been successful with this, as he describes, with the cyst in the orbit, spleen or lung as well as in the liver. The operation is completed at one sitting, under local anesthesia.

Injury of Semilunar Cartilages of the Knee.—Pinardi's patient had been lame for three years after a fall injuring the knee, which had been painful since. The operation revealed a transverse fracture of the internal semilunar cartilage although roentgenoscopy had been negative. The rapidity and extent of the effusion at the time of the fracture, the subcutaneous extravasated blood, the cracking sound at the moment of the accident, and the constant tender point in the joint might have aided in the diagnosis, as the ability to use the limb at all excluded fracture of a long bone. Another aid in diagnosis was the way in which the joint suddenly became blocked at times, after an unusually long step; and only a certain passive movement always restored function to it. The woman has been free from all disturbances during the fifteen months since excision of the fractured cartilage.

Gallstone Obstruction of Common Bile Duct.—Vecchi watches over the case for a few days, and then, if no improvement is evident, he operates at once and drains the biliary passages. He never waits longer than from four to eight days from the beginning of the colic attack. The four cases described in detail confirm the advantages of thus temporizing at first.

Sarcoma in Sacral Region.—Gobbi reports a case of what seemed to be Pott's disease in the fourth and fifth lumbar vertebrae in a patient 17 years old. The first symptoms had been noted a few months after a fall injuring the lower part of the back. The lesion proved to be a primary sarcoma with an unusually slow course, over two years. There were no functional disturbances but pain was severe and spread down into the right leg. Gobbi lists the cases on record of malignant tumors in vertebrae and reviews the operative cases. He regarded his case as inoperable but Potel has reported 22 per cent. cured of thirty-two cases of vertebral sarcoma; Stursberg 6 per cent. of twenty-two vertebral tumors, and Péan and Carle one case each.

Differentiation of Pyuria-Hematuria.—Bufalini reports a case of tuberculous papillitis with miliary pyelitis, and gives photomicrograms of the kidney after its removal. He also summarizes eight cases from the literature in which the tuberculous process was likewise limited to one papilla. He is inclined to accept that this is the initial form of ordinary renal tuberculosis.

Policlinico, Rome

Dec. 1, 1921, 28, Medical Section No. 12

*Parkinsonism from Epidemic Encephalitis. L. de Lisi.—p. 505. Conc'n.
Cinchonin in Treatment of Malaria. S. Silvestri.—p. 529.
The Blood Platelets and Their Origin. R. Marchesini.—p. 546. Reply.
A. Perroncito.—p. 548.

Parkinsonism After Epidemic Encephalitis.—De Lisi tabulates the findings in eleven cases of symptomatic paralysis agitans, the age ranging from 13 to 39. In all the course has been very slow but inexorably progressive, and a tendency to catatonia is pronounced in nearly all. The encephalitis had run its course in 1918, 1919 or 1920, and the parkinsonian

symptoms did not appear until after an interval of health. The speech resembles that in Wilson's disease.

Dec. 15, 1921, 28, Surgical Section No. 12

*Congenital Elevation of Scapula. M. Salaghi.—p. 521.

*Pseudarthrosis. F. Putzu.—p. 528.

*Pedunculated Bone Grafts. L. G. Gazzotti.—p. 548.

Intermittent Hydronephrosis. G. Cavina.—p. 556.

Congenital Elevation of the Scapula.—In the case described by Salaghi developmental deficiencies of ribs were responsible for Sprengel's deformity. He explains how to treat the resulting displacement of the spine by manual correction to untwist the spine.

Pseudarthrosis.—Putzu applied in eighteen cases of traumatic pseudarthrosis of the arm either a bone implant, or he merely reconstructed the bone shaft, or, when the traumatic injury was recent, and there was no bone or soft parts interposed between the fragments, he assumed that operative measures were not required. The results were excellent in all but one although there had been long suppuration in each case.

Fibula to Replace Tibia.—The shaft of the fibula was divided at the upper end and this end was implanted in the spongiosa of the upper stump of the tibia, after the tibia shaft had been resected. After allowing ample time for the upper end of the fibula to heal in place and become well nourished, then the lower end of the fibula shaft was divided and this lower end implanted in the lower stump of the tibia in the same way. The implant was thus pedunculated.

Rivista di Clinica Pediatrica, Florence

September, 1921, 19, No. 9

*Radiotherapy of Hypertrophied Thymus. L. M. Spolverini.—p. 513.

*Angiotrophoneurotic Form of Purpura. G. Frontali.—p. 525.

Hypertrophy of the Thymus.—Spolverini reports that all were cured in the four cases of thymus asthma in which he applied the roentgen rays. The patients were infants from 2 to 7 months old. The hypertrophied thymus seems to be exceptionally susceptible to the roentgen rays. The dose each time was about 2½ H units with a 2 mm. aluminum filter. The exposures should be repeated about once a week until the symptoms from compression disappear.

Abdominal Purpura.—Frontali reports the results of various tests applied in a case of purpura in a girl of 7. The blood platelets were in normal numbers, but angioneurotic edema and symmetrical gangrene formed part of the clinical picture, an actual angiotrophoneurosis. The circumscribed and fleeting edema was preceded by local pain and sensation of pressure. The first manifestations of the disease had been in the abdomen, pain, diarrhea and tenesmus. The fourth day the purpura developed, the waves of punctate hemorrhage returning after two day intervals, and some of the confluent patches suppurating, with sloughing off of tissue. Aphthous stomatitis and tonsillitis also formed part of the clinical picture, with persistent recurring abdominal pains and diarrhea, and multiple gangrene as the final stage before convalescence set in, with final complete recovery. Pilocarpin brought back the abdominal symptoms after they had entirely subsided for more than a week, which confirmed that irritation of the abdominal autonomic nervous system was responsible for them. The whole disease lasted from November into March. There was no fever until the stage of suppuration was reached, from secondary infection. The symmetry of the multiple gangrene, its predilection for elbows and knees, and the integrity of the heart, are among the arguments against an infectious origin. Bacteriologic tests were constantly negative in skin and blood; the ulcerative stomatitis was evidently the work of secondary infection.

Semana Médica, Buenos Aires

Nov. 3, 1921, 28, No. 44

*Edema from Congenital Grooves. M. Sussini and F. Bazán.—p. 577.

*Calculus Reflex Anuria. J. Salleras.—p. 579.

Action of Roentgen Rays on Cancer Cells. C. Heuser.—p. 583.

*Tuberculosis in State of Cordoba." G. Bermann.—p. 586.

Thyrotomy for Extraction of Scrap of Egg Shell. A. M. Cavazzutti.—p. 591.

Ferrán's Treatment of Tuberculosis; Twenty-Six Cases. A. Helguera.—p. 592.

Influenzal Pneumonia in Infant. González and Basavilbaso.—p. 595.

Edema of Feet from Congenital Grooves.—The 3 months' infant had deep grooves at ankles and toes, and both feet were swollen almost round. At the sixth month, the fibrous tissue forming the groove on one foot was resected but not much benefit was derived. Sussini and Bazán now propose to cut out more of the fibrous tissue, resecting a piece like a segment of a melon. This, they think, will allow better circulation in the foot.

Calculus Reflex Anuria.—Salleras advises to pass three suture threads through the kidney to draw the tissues up to obliterate the cavity left by removal of the calculus. Neglect to do this was responsible for recurring hematuria in a case described. He had to open the kidney again to remove the clot that had formed in the cavity. After convalescing from this second operation, an unsuspected calculus in the other kidney entailed tardy fatal reflex anuria.

Archiv für Gynäkologie, Berlin

Nov. 29, 1921, 115, No. 2

*Cyclic Genital Processes in Mammalian Females. O. Zietschmann.—p. 201.

*Radium Dosage. R. Zander.—p. 253.

*Eclampsia. H. Zacherl.—p. 264.

*Sudden Natural Death in Pregnancy and Childbed. H. Katz.—p. 283.

*Hemolytic Bacteria in the Prognosis. F. Kirstein.—p. 313.

Passive Immunization of New-Born Against Diphtheria. Id.—p. 326.

Ovarian Folliculoma. B. Aschner.—p. 350.

Case of Zinc Chlorid Caustic Action in Vagina. H. Fuch.—p. 383.

Defective Osteogenesis. H. Baumm.—p. 385.

Epithelial Nodules in Uterine Glands. R. Meyer.—p. 394.

Clinical and Necropsy Findings in Holoacardius Eumorphus. W. Strakosch and H. E. Anders.—p. 408.

Cyclic Genital Functioning in Mammals.—Zietschmann compares the cyclic processes of rutting and menstruation, and discusses the comparative functioning of the genital apparatus in mammals and human beings. He gives nearly five pages of bibliographic titles, set solid.

Radium Dosage.—Zander uses the softened rubber mass of the dentists to pack around the radium tube. A cold douche hardens it, and it holds the radium immovable in the desired position as long as needed.

Eclampsia.—Zacherl reports 2 cases of eclampsia without convulsions but with the characteristic findings in the organs at necropsy. There were no symptoms until the terminal phase. In fact, it seems, he remarks, that the gravest changes may be found in the cases without convulsions. The diagnosis of eclampsia had not been made during life. There have been 188 cases of eclampsia among the 32,700 obstetric cases at the Graz maternity, a proportion of 0.57 per cent., and 20.7 per cent. of the eclampsia women died. In 18 cases the eclampsia developed after the women were in the hospital. Only 3 died before delivery, and the interval after delivery ranged from one hour to one day in all but 8. The mortality has dropped from 21 to 12 per cent. since 1903-1910, and the mortality of the children from 43.66 to 27.06 per cent. This confirms that the treatment applied is in the right direction, namely, warding off all irritating factors; general anesthesia for all interventions; venesection plus infusion of saline; prophylactic sedatives by the Stroganoff system, and hastening delivery with gentle measures.

Sudden Natural Death in Pregnancy and Childbirth.—Katz classifies his 95 medicolegal cases in four groups: those from fatal internal disease (22); eclampsia (30, including 2 fatal cases early in the pregnancy); hemorrhage or embolism at delivery (24), and thrombosis in the puerperium (19). Meningitis proved responsible for the death in one case; the conditions in the genital sphere were apparently normal.

Hemolytic Micro-Organisms in Parturients.—Kirstein regards tests of the hemolytic properties of the bacteria found in the case as an important gauge of their virulence. He means in particular the hemolytic action on the patient's own blood corpuscles. If her erythrocytes are resistant, or if the bacteria are not strongly hemolytic, all is well as a rule. In three series with hemolytic bacteria 46 per cent., 68.7 per cent. and 92.4 per cent. developed fever, the series including 11, 16 and 53 women. In the corresponding series with nonhemolytic bacteria, the percentages were 12, 12.1 and 0.32, the groups containing 424, 390 and 1,251 women.

Archiv für klinische Chirurgie, Berlin

Nov. 24, 1921, 118. A. Bier Festschrift. First Third

- *Causal Treatment of Gastric Ulcer. V. Schmieden.—p. 1.
- *Stasis in Gallbladder. Idem and C. Rhode.—p. 14.
- *Bile Peritonitis without Perforation. C. Ritter.—p. 54.
- *Idiopathic Cyst in Common Bile Duct. Schürholz.—p. 91.
- *Surgery of Hard Gastric Ulcer. R. Hölscher.—p. 96.
- *Localization of Ulcer in Digestive Tract. W. Block.—p. 114.
- *Suspension of Stomach to Rib. Klapp and Riess.—p. 125.
- *Inflammatory Tumors in Intestines. W. Körte.—p. 138.
- *Permanent Subcutaneous Drainage for Ascites. F. Erkes.—p. 164.
- *Congenital Atrophy of One Kidney. O. Rumpel.—p. 173.
- *Obstruction of Ureter by Mesenteric Cyst. E. Valentin.—p. 189.
- *Displacement of Ureter. E. Joseph.—p. 194.
- *The Skull Bones and the Brain. Tilmann.—p. 201.
- *Reconstruction of Urethra. V. Hacker.—p. 209.
- *Reinforcing of Suture for Bladder Fistula. W. Rübsamen.—p. 220.
- *Congenital Torticollis. J. Fränkel.—p. 228.
- *Amputation Stumps in Children. C. Deutschländer.—p. 253.
- *Surgical Treatment of Prognathism. R. Krueger.—p. 261.

Causal Treatment of Gastric Ulcer.—Schmieden's endorsement of resection by steps has already been mentioned in these columns. By cutting out a long area in the lesser curvature, including the ulcer, and a narrow strip across the stomach, we get rid of the pathologic portion while retaining the normal shape of the lumen of the stomach. He declares that gastric ulcer must be regarded as a mal perforant of the stomach, calling for the same causal treatment as the latter. It is important to get the ulcer patient into an interval phase before attempting to operate. One of the strongest arguments for operative measures with gastric ulcer, he adds, is that physicians with gastric ulcers clamor for an operation, although otherwise knife-shy, as a rule.

Bile Peritonitis.—Ritter reports two cases of bile peritonitis with no signs of perforation of the gallbladder, and compares them with similar cases on record. A number were cured by removal of the gallbladder, but some recovered after mere puncture of the gallbladder and draining.

Surgery of Hard Gastric Ulcer.—Hölscher relates that 87 per cent. were permanently cured by a palliative operation alone in 38 cases, and 62.2 per cent. by a radical operation in 29 other cases.

Diagnostic Import of Amylase in Blood in Regard to Ulcer.—Block's tables of fifty-seven cases of gastric or duodenal ulcer show that the amylase content of the blood was always far above normal when the ulcer involved the pancreas. It was moderately increased with perigastritis, when the tumor was in the lesser curvature, posterior wall, upper part of the anterior wall, or in the duodenum. The amylase content was normal with ulcers elsewhere, and in the absence of perigastritis.

Fastening the Sagging Stomach to a Rib.—In the five cases described all the symptoms disappeared at once after four silk suture threads had been quilted vertically through the anterior wall of the stomach, and the ends of each drawn through the skin on each side of the rib and tied, all the same distance apart.

Inflammatory Tumors in the Intestines.—Körte summarizes fifteen cases and emphasizes the difficulty of differentiation. Appendicitis, or diverticulitis is generally responsible, but in some cases no cause could be discovered.

Surgical Treatment of Ascites.—Erkes gives an illustration of the technic with which in five cases of tuberculous peritonitis he drained the ascitic fluid into the subcutaneous tissue by making a permanent opening into the peritoneum. Great relief followed also in a case of carcinomatous ascites. The five other patients rapidly regained their earning power.

Congenital Atrophy of One Kidney.—Rumpel reports five cases, in adults of both sexes, between 39 and 56. All were supposedly healthy when symptoms in the atrophied kidney compelled operative intervention.

Occlusion of Ureter by Tuberculous Gland.—Valentin's patient was a young woman, and she was cured by resection of the tuberculous mesenteric gland.

Displacement of the Ureter.—Joseph's roentgenograms confirm the possible stretching of the ureter, to a length of 35 cm. and more, by the effort of the ureter to overcome the resistance of a growing tumor. With the shriveling from a

peritoneal tuberculous process, on the other hand, the ureter may shrink very short, to 17 cm. or less.

The Skull Bones and the Brain.—Tilmann explains that when the contents of the skull bulge, the bone atrophies as an effort to relieve the pressure on the brain. On the other hand, when the brain shrinks, the space may fill up with fluid, or the bone hypertrophy, or both may occur. These processes are not of an inflammatory nature; they are evidence of reaction and repair: reduction of skull bone tissue when the content of the skull is disproportionately large, and hypertrophy when it is too small. The primary focus must be removed, whether in brain or bone. Our measures must be aggressive, and on the valve principle. By providing a valve, it can bulge out or sink in, as the circumstances require, and the disproportion is corrected.

Reconstruction of Urethra.—The war wound had destroyed part of the urethra, bladder and rectum. Hacker gives two colored plates showing how he utilized rectum tissue in the complicated plastic operation.

To Reinforce a Bladder Fistula Suture.—Rübsamen's illustrations demonstrate the advantages of using the peritoneal fold between bladder and uterus to reinforce the suture after correcting the fistula. This fold is drawn up and sutured like an apron over the sutured fistula. The uterine cervix is then sutured to the anterior pubic portion of the levator ani muscles on each side to ward off any possible insufficiency on the part of the urethra.

Congenital Muscular Torticollis.—Fränkel merely severs the muscle through a small incision, and applies a plaster cast, as he describes. He expatiates on the excellent results in a long series of cases illustrated.

Amputation Stumps in Children.—Deutschländer advocates transplanting an epiphysis when the natural epiphysis has been lost at an amputation. Every effort should be made to save the natural epiphysis in operating on a child. If not possible, the fibula epiphysis can generally be utilized.

Beiträge zur klinischen Chirurgie, Tübingen

1921, 124, No. 3

- *Pulsion Diverticulum of Esophagus. D. Kulenkampff.—p. 487.
- *Experimental Pneumothorax. H. Burckhardt.—p. 516.
- *Treatment of Acute Empyema. R. Ganz.—p. 535.
- *Continent Artificial Anus. F. J. Kaiser.—p. 548.
- *Nerves of Anterior Abdominal Wall. L. Drüner.—p. 583.
- *Necrosis After Ligation of Large Vessels. L. Heidrich.—p. 607.
- *Outcome of Operations on Nerves. B. Heile.—p. 639.
- *Traumatic Segmental Vascular Spasm. R. Reichle.—p. 650.
- *Operative Treatment of Tuberculous Spondylitis. K. Bachlechner.—p. 655.
- *Operative Nearthroses. T. Kalima.—p. 662.
- *Fracture of Transverse Processes. Niedlich.—p. 683.
- *Action of Optochin in Postoperative Pulmonary Complications. B. Neuer.—p. 696.
- *Esophagoplastics. O. H. Petersen.—p. 705.
- *Operative Cure of Phlegmon in Cecum Wall. H. Biedermann.—p. 718.

Pulsion Diverticulum.—Kulenkampff bases this study of the etiology, diagnosis and treatment of pulsion diverticulum of the esophagus on six operative cases. The predisposition is congenital, but the disturbances are easily cured, he says, by excision of the sac under local anesthesia, using the sac itself to reinforce the suture.

Continent Artificial Anus.—Kaiser reports two cases in which he has succeeded in rendering the artificial anus entirely continent by the simple device of drawing the stump of the bowel through the sartorius muscle, which spontaneously and automatically closes the lumen except when the sartorius is voluntarily relaxed by raising the leg. The desire for defecation is felt in time to guard against incontinence. The loop of the bowel is brought outside of the muscles in the groin and is drawn down and under the sartorius muscle. The large triangular skin flap is then sutured over the whole except the mouth of the intestine forming the femoral anus in the thigh. The article is illustrated.

Ligation of Trunk Vessels.—Heidrich summarizes the cases from the last ten years in which various arteries were ligated. Cerebral disturbances followed in 30 per cent. of the 53 common carotid cases and in 4.4 per cent. of the 23 in which the jugular vein was ligated also, and in 7.1 per cent. of the 14 jugular vein cases, but no disturbances were observed in

the 18 cases of ligation of the vertebral artery or in the 21 external carotid cases. In 405 cases treated by ligation of a trunk vessel in the arm, gangrene developed in 6.4 per cent. and in 11.9 per cent. of the total 1,276 cases of ligation of various arteries or veins. His detailed study of this material warns anew that ligation is dangerous for the common carotid and common and external iliac, and also for the femoral and popliteal arteries, as necrosis is so liable to follow. The vessel should be sutured, not ligated. Sutures stood the extreme test of war conditions. Even if thrombosis may obliterate the vessel as completely as ligation, yet it has the advantage that it develops slowly, giving a chance for collaterals to form. The thrombi may later allow the passage of the blood, restoring the permeability of the vessel. If ligation is the only resource, he advises to ligate the vein along with the artery. With the subclavian, axillary, brachial and ulnar arteries, it is optional whether to ligate or suture; necrosis is as liable with one as with the other. Ligation is to be preferred for the arteries below the knee and below the elbow, the external carotid and the trunk veins. After-disturbances with these are extremely rare.

Operations on Nerves.—Heile describes the present status of 87 out of 300 nerve operation cases, with an interval since of over thirty months. In 25 per cent. the operation has proved a complete failure, no improvement being evident from the partial or total resection or neurolysis. The outcome in the neurolysis cases has proved particularly disappointing. Only 25 per cent. have been cured completely; 50 per cent. are only more or less improved. Shifting the nerve into sound tissue proved useful, but seldom is practicable. A calf artery used to isolate the nerve soon became disintegrated, and fascia tissue did not give durable protection. Fat proved better adapted for the purpose. Drain tubes also long persisted without disintegration. Very encouraging are the excellent results realized in 2 cases in which 4 and later 2 more posterior roots were resected in the sciatic region, after failure of other means to relieve the intense pains. Some colored photomicrograms show among other things the importance of the sympathetic fibers found in peripheral nerves.

Traumatic Segmental Spasmodic Contraction of Vessels.—Reichle adds two cases to the few on record of segmental spasm of a large vessel after a contusion, gunshot wound or other injury. The segmental spasm may accompany laceration of the vessel.

Artificial Esophagus.—The antethoracic esophagoplastic operation was done on the girl of 17 for congenital stenosis of the esophagus. The new esophagus was constructed from a loop of small intestine, the three operations at two and four week intervals early in 1920. Formation of the skin tube was the last step in the procedure. The success has been complete.

Deutsche medizinische Wochenschrift, Berlin

Dec. 15, 1921, 47, No. 50

- Theory of Action-Currents in Muscles. Kraus and Zondek.—p. 1513.
Cardiac Pains. A. Hoffmann.—p. 1514.
Portable Outfit for Blood Examinations. Schilling.—p. 1517.
The Hemoclastic Crisis. J. Bauer.—p. 1519.
Researches on the Vagus and Sympathetic Nerves. Zondek.—p. 1520.
Effect on the Skin of Intravenous Injections of Glucose. W. Scholtz and C. Richter.—p. 1522.
Accelerating Effect of Glucose on the Spirillicidal Action of Arsphenamin. Steinberg.—p. 1523.
*Danger from Marking Inks. P. Borinski.—p. 1526.
*Sodium Chlorid in Treatment of Wounds. H. Rogge.—p. 1527.
A Modification of the Percussion Hammer. A. Lissauer.—p. 1528.
*Postoperative Irradiation of Carcinomas. O. Strauss.—p. 1528.
General and Local Anesthesia. G. Ledderhose.—p. 1530.

Danger in Marking Inks.—Borinski reports seven cases of poisoning in infants traceable to the marking fluids employed in hospitals in marking baby linen used next to the skin. The cause of the poisoning was not nitrobenzene, as was at first assumed on the basis of previous publications, but anilin. It was found that there was, however, no danger from anilin black inks if used according to directions, but as there seems to be no guarantee that proper caution will be taken, marking fluids containing anilin would better be excluded from founding hospitals and similar institutions.

Sodium Chlorid in the Treatment of Wounds.—Rogge states that, on account of its irritative qualities, which are fre-

quently underestimated, strong solutions of sodium chlorid must not be used in certain wounds. Almost all trophic ulcers, for example, are very sensitive to sodium chlorid if used any length of time; likewise varicose ulcers if there is inflammation in the vicinity. It is generally assumed that physiologic sodium chlorid solution does not irritate. That is not the case. It is by no means to be regarded as "physiologic" for sensitive wounds. Even a slight irritation such as is occasioned by weak solutions may in the case of sensitive wounds be the deciding factor in a turn for the worse. The strength of the solution must be determined by experimenting in each individual case. It is especially important in using sodium chlorid solutions, as is true of every form of irritative treatment, that after a given irritation time must be allowed the tissues to recover before a second irritation is set up.

The Postoperative Irradiation of Carcinomas.—Strauss regrets that more practitioners have not taken up with the prophylactic, postoperative irradiation of carcinomas. As the question stands today, postoperative irradiation is enthusiastically recommended by certain prominent men in the field, and is just as vigorously rejected by other equally good authorities. Strauss sums up his experience somewhat as follows: Postoperative, prophylactic irradiation is, in principle, to be recommended. As a rule, not more than two thirds of the erythema dose should be administered. The interval between the operation and the beginning of postoperative irradiation should be as short as possible. The number of postoperative irradiations should be carefully restricted. After six postoperative irradiations at least a six months' interval should intervene before the irradiations are continued.

Medizinische Klinik, Berlin

Dec. 4, 1921, 17, No. 49

- Treatment of Wounds. C. Bayer.—p. 1471.
*Causes of Abortions and Miscarriages. C. Abernethy.—p. 1475.
*Slow Endocarditis. Gessler.—p. 1476.
Butter-Flour Mixture in Infant Feeding. B. Epstein.—p. 1478.
Abuse of Laxatives. A. Alexander.—p. 1481.
*Toxic Transformation of Calomel. J. Schumacher.—p. 1485.
*Pituitary Extract for Functional Kidney Tests. H. Brieger and K. Rawack.—p. 1485.
*Treatment of Erysipelas. Theisinger.—p. 1487.
Improved Microscopy for Tubercle Bacilli in Sputum. H. A. Dahm.—p. 1487.

Causes of Abortion and of Immature and Premature Labor.—Abernethy states that grouping the criminal, the traumatic and the unknown cause cases leaves only 34.4 per cent. of 125 cases for which some organic lesion was responsible. In one case a therapeutic hot foot bath seemed to have brought on the abortion.

Slow Endocarditis.—All but 3 of Gessler's 33 cases of slow endocarditis were in men and 28 of them had served in the war. The insidious onset, irregular temperature course, heart and kidney findings, and the anemia render the diagnosis easy if the possibility of it is borne in mind. Nothing but syphilis could offer such a picture, and such an accumulation of symptoms is rare in syphilis. The Wassermann reaction was positive in one case in which nothing otherwise suggesting syphilis could be found. In 31 of the 33 cases the aorta was involved likewise. Young people with aortic insufficiency and no history of polyarthritis should be examined for this form of endocarditis.

Toxic Action from Calomel.—Schumacher's research has confirmed that calomel becomes a dangerous poison when it is arrested in the bowel, the alkaline carbonate in the intestinal juice transforming it in such a way that all the mercury is taken up into the circulation. It should never be given therefore with paralysis of the bowel, ileus or incarceration. It is a harmless laxative only when it can be passed rapidly through the bowel and evacuated.

Pituitary Extract in Functional Kidney Tests.—Brieger and Rawack confirmed in tests on healthy subjects that pituitary extract first checks diuresis and then exaggerates it, accompanied by augmented elimination of sodium chlorid. The pituitary extract was injected by the vein after the subject had drunk a liter of water. They give typical charts from five cases of kidney disease, showing the modification in the curve

in pathologic conditions. The difference between the phases is much less distinct, and the response is more protracted. They warn against the test in cases of high blood pressure, stating that, even in the healthy, nausea, headache or irregular pulse were sometimes observed.

Silver Nitrate in Treatment of Erysipelas.—Theisinger confirms the efficacy of an 18 per cent. solution for arresting the spread of erysipelas, applied to the tissues beyond the edge of the lesion, and it has never spread beyond. In his two dozen cases treated in this way, the success was constant except in one case in which it was applied too late, the meninges having already become involved. (In the heading to the article the strength is stated as "16 per cent.," in the article itself, as "18 per cent.")

Mitteil. a. d. Grenzgeb. d. Med. u. Chir. Jena

1921, 34, No. 2

*Duodenal Ulcer. F. M. Groedel.—p. 145.

*Ambard Index as Test of Kidney Functioning. M. Rosenberg.—p. 162.

*Cause of Habitual Constipation. T. E. H. Thaysen.—p. 175.

*Unilateral Paralysis of Diaphragm. O. Winterstein.—p. 188.

*Hyperesthetic Polyperiostitis. R. Stephan.—p. 201.

*Suspension Stability of Erythrocytes. W. Löhr.—p. 229.

*Changes in Capillary Walls. R. Schrader.—p. 260.

Roentgen-Ray Findings with Duodenal Ulcer.—Groedel's extensive experience has confirmed the points in which the roentgenograms differ with florid ulcer in the duodenal mucosa from those with chronic and hard ulcers, and according as there is excessive or insufficient motor functioning of duodenum or stomach or both. He has never encountered a case of penetrating duodenal ulcer, and knows of only one such case on record, confirmed by necropsy. He analyzes the direct and indirect roentgen symptoms, especially the interval findings, the patient standing.

The Ambard Index of Kidney Functional Capacity.—Rosenberg tabulates the findings with the water freshet test and the concentration test of kidney functioning, listing the Ambard constant each time, in fifty cases. His verdict is that the Ambard index is not so reliable as the findings with the water and concentration tests. A normal Ambard constant seems to exclude severe kidney disease, but the kidneys may be mildly diseased. The Ambard index is particularly useful when prolonged study of the case is impracticable, but we must not rely on it too implicitly.

Ptosis of the Colon.—Thaysen argues that the normal transverse colon may sag to an extent that has hitherto been regarded as pathologic ptosis. In 25 per cent. of all men and 50 per cent. of all women the transverse colon will be found 10 cm. or more below the navel. Even 15 cm. below the navel cannot be accepted as certainly ptosis. The transverse colon changes its position freely so that it sags to a different degree on different days. The feces pass smoothly through the right and left flexures without obstruction, even when kinked. Chronic constipation may exist for ten years or more without entailing the clinical picture of mechanical stenosis, so long as it is not accompanied with functional spasms. But as soon as the flexures are hampered in their movements by adhesions, we have at once the whole clinical picture of stenosis of the bowel. His further research has confirmed his view that habitual constipation is of purely functional origin.

Paralysis of the Phrenic Nerve.—Winterstein describes the clinical picture of paralysis of one half of the diaphragm with paralysis of the brachial plexus, comparing a case in a man of 47 with six from the literature.

Painful Polyperiostitis.—Stephan has encountered five cases of what he calls polyperiostitis hyperaesthetica, all in women between 25 and 43 years old. No treatment has arrested the process. In the course of an average of eight years it has slowly involved the entire skeleton, absolutely incapacitating the women. The hyperesthesia of the skin over the periosteitis process spreads far beyond its actual area, but it does not conform to the segmental or peripheral innervation, and seems rather of reflex origin. The temperature is higher in the evening, and persistently high while a new periosteitis focus is developing. No signs of tuberculosis or syphilis, and no involvement of tissues other than the

periosteum can be discovered. In one of the cases the full clinical picture developed in eight months, and has persisted unmodified to date. Roentgenoscopy shows proliferation of the periosteum at certain points, resembling that with syphilis and rheumatism, although apparently more compact. In a third less pronounced case, there is concomitant otitis media, and in a fourth and fifth recent case, there is chronic frontal sinusitis.

Suspension Stability of Erythrocytes.—Löhr charts the time required for sedimentation of the erythrocytes in 110 healthy subjects of all ages. It averaged 300 minutes for the children; from 850 to 1,000 minutes for the women, and from 1,200 to 1,400 minutes for the men. He compares with these normal standards the suspension stability in over 500 clinical cases, and ascribes accelerated sedimentation to an excessive destruction of cells and resorption of the products of destruction. This indicates to what extent the suspension stability can be utilized as an aid in differential diagnosis. It enables us to distinguish an inflammatory from a noninflammatory process, but is not reliable for differentiation of tumors from inflammatory processes or gastric ulcer from cancer, but it may possibly aid in distinguishing between a duodenal ulcer and gallstone mischief, and between inflammatory and non-inflammatory processes in bones.

Test for Permeability of the Capillary Walls.—Schrader refers to the punctate hemorrhages which may develop in the arm below an elastic band, or anywhere on the body under a cupping glass. The "endothelium symptom" is observed when the capillary walls are suffering from the action of the toxins of measles, scarlet fever, etc., and during certain forms of endocrine disturbance, as in tardy rachitis. The extent of the area in which the punctate hemorrhages appear is a gauge of the intensity of the toxic action involved. Clinical and experimental study of the phenomenon suggests that it may serve as an indicator of the severity of the action of endogenous or exogenous toxins. Arspenamin, influenza toxin, the toxins from spirochetes, metabolites, chloroform, etc., display an elective action on the endothelial apparatus, modifying the structure of its cells. The tonus of the endothelial cells may fluctuate secondarily—by way of the spleen—in deranged states of the endocrine system and under exogenous toxic action. The spleen seems to be the "central" for these changes in the endothelium, and in the punctate hemorrhages below an elastic band we have a means for rendering these changes visible. This endothelial symptom is thus an important aid in the diagnosis of many pathologic conditions and in clearing up a number of theoretical questions, as he shows by nineteen typical examples. In certain cases of menorrhagic hemorrhage, the endothelial symptom was pronounced, but it subsided completely as the hemorrhages were arrested by roentgen exposures of the spleen. The endothelium symptom was likewise pronounced in some men in the "climacterium virile," and in ten cases of exophthalmic goiter. In one young woman it subsided with the other symptoms after thyroidectomy.

Münchener medizinische Wochenschrift, Munich

Nov. 25, 1921, 68, No. 47

Spontaneous Healing of Scrofuloderm; Tuberculous Immune Substances.

A. Jesionek.—p. 1509.

Effect on the Spinal Column of the Swedish Backward Stretch Movement and Klapp's Creeping Exercises. Müller.—p. 1514.

Type of Breathing in Various Sports. W. Kohlrausch.—p. 1515.

Bradycardia in Athletes. H. Herzheimer.—p. 1515.

Energy Quotient, the Nem System and Body Surface. W. Stoeltzner.

—p. 1518.

The Quantitative Determination of Ozone. F. Lönne.—p. 1519.

Treatment with Own Blood. Nourney.—p. 1521.

Improvised Roentgen Stereoscopy. J. Borggreve.—p. 1521.

The Malignant Granuloma. M. Matthes.—p. 1526.

Dec. 2, 1921, 68, No. 48

Dental Hypoplasia and Congenital Syphilis. Zinsser.—p. 1543.

Ligature of Pelvic Veins in Puerperal Pyemia. Warnekros.—p. 1545.

Abdominal Cesarean Section under Local Anesthesia. Frey.—p. 1548.

Quick Method of Determining the Surface Tension of Small Quantities of Fluids. R. Brinkman and E. van Dam.—p. 1550.

Serologic Tests in Malarial Regions. H. Heinemann.—p. 1551.

Appendicitis in Relation to Weather Conditions. E. Seifert.—p. 1553.

Dietetic Treatment for Biermer's Anemia. Stoeltzner.—p. 1558.

Simple Polychemical Urobilin Reaction. T. Hausmann.—p. 1558.

Simple Gage for Dosage in Deep Roentgen Therapy. Stettner.—p. 1559.

Twitching of Muscles after Epidemic Encephalitis. Brock.—p. 1559.

- Roentgen Treatment of Scleroderma. G. Hammer.—p. 1559.
Is Arspenamin Solely for Diagnosis Justified? Oelze.—p. 1560.
"Artificial Pneumothorax." H. Alexander.—p. 1560.
Effect of Pregnancy, Birth and Puerperium on Tuberculosis of Lungs and Larynx. E. Kehrer.—p. 1561.
Treatment of Tuberculosis of Epididymis. V. Schmieden.—p. 1563.

Wiener klinische Wochenschrift, Vienna

Nov. 10, 1921, 34, No. 45

- Operation for Oblique Inguinal Hernia. H. Salzer.—p. 543.
Prolapse of Ureter Cyst. F. Pendl.—p. 544.
The Static and Respiratory Excursions of Normal Kidneys. K. Hitzberger and L. Reich.—p. 545.
Theory of the Meinicke Test (Third Modification). E. Epstein and F. Paul.—p. 546. Comment. R. Bauer and N. Nyiri.—p. 548.
Dysentery in Vienna. S. Bernstein et al.—p. 549. Conc'n.

Nov. 17, 1921, 34, No. 46

- *Bacteriophagum Intestinale. O. Bail.—p. 555.
Toxic Meningitis in Mumps. E. Urbantschitsch.—p. 556.
Albee Operation in Vertebral Tuberculosis. H. Matheis.—p. 557.
Deep Roentgen Irradiation in Tuberculosis of the Testis and Genitalia. K. Ullmann.—p. 559.
"Medicine in Relation to Theology." K. Feri.—p. 561. Reply. Dittel.—p. 561.

Nov. 24, 1921, 34, No. 47

- Treatment of Gastric and Duodenal Ulcer. K. Glaessner.—p. 567.
Etiology and Diagnosis of Aerogenic Liver Abscess. Massari.—p. 568.
Effect of Cleavage Products of Tubercle Bacilli in Treatment of Tuberculosis of Bones and Joints. O. Stracker.—p. 569.
Horse Serum Test in Tuberculosis of the Skin. A. Busacca.—p. 570.
Cavernitis from Gunshot Injury of Penis. O. Sachs.—p. 571.
Changes in Cardia in Esophagus Processes. O. Stricker.—p. 572.

Bacteriophagum Intestinale.—Bail discusses the conditions under which bacteriophagum multiplication takes place. He estimates the number of "virus germs" by the number of the transparent areas that develop in the culture. If a number of bacteriophagum "virus germs" are left in sterile bouillon at a temperature of 37 C. or at room temperature, they do not multiply; moreover, they slowly decrease, although they never become entirely inactive. If living Shiga bacilli are added, the whole scene changes. However, if only a few bacilli are added, during the first few hours no increase can be noted, whereas if large numbers are added, within a short time there is such a rapid increase in the number of the "holes" that they can be counted only in strong dilutions. If we follow up not only the relative increase of the bacteriophages, but also the fate of the inoculated Shiga bacilli, it will be noted—which at first sight seems contradictory—that in equal dilutions of the bacteriophagum material Shiga bacilli profusely inoculated are destroyed more quickly than when in smaller numbers. The very rapid increase of a corporeal something, dependent on the number of living bacteria present, would of course, explain this. The increase in virulence of the bacteriophagum "virus germs" is also dependent on the number of bacteria. (The bacteriophagum was described in an editorial in THE JOURNAL, July 9, 1921, p. 126, and elsewhere.)

Zentralblatt für Gynäkologie, Leipzig

Nov. 5, 1921, 45, No. 44

- *Treatment of Febrile Abortion. R. T. v. Jaschke.—p. 1589.
*Frequency of Malignant Uterine Myomas. A. Berreitter.—p. 1592.
Leukocyte Count During the Menstrual Cycle. L. Caminer.—p. 1601.
Epidemic Encephalitis in Relation to Pregnancy. C. Hofer.—p. 1604.
*Roentgen Treatment of Pruritus Vulvae. O. Schlein.—p. 1607.
"Critical Remarks on Temporary Sterilization." W. Stoeckel.—p. 1617.

Treatment of Febrile Abortion.—Jaschke opposes Winter's demand that evacuation be made to depend on the presence or absence of hemolytic streptococci. In his experience, evacuation is permissible, without regard to the bacteriologic findings, whenever the previously febrile temperature has dropped to normal.

Frequency of Malignant Uterine Myomas.—Berreitter, after examining into the statements in the literature on the frequency of malignant uterine tumors, concludes that 0.5 per cent. of uterine myomas may be regarded as malignant. Very frequently, in fact, almost constantly, numerous, irregular giant cells occur in the really malignant myomas, which, therefore, deserve increased attention in the histologic diagnosis of malignity. In Berreitter's six cases of malignant myomas the giant cells were always found.

Roentgen Irradiation in Vulvar Pruritus.—Schlein reports eleven cases in which a cure was effected by roentgen irradiation.

In all cases in which there was a secretion, remedies were employed in addition to roentgenography. Most other remedies had had only a palliative effect. Roentgenography effected complete cures, although in refractory cases considerable patience and persistence were required. Thirty exposures were required in one case; two sittings each week, with intervals of a week or two between each series of four exposures.

Zentralblatt für innere Medizin

Nov. 12, 1921, 42, No. 45

- *High Blood Pressure and Diabetes. E. Kylin.—p. 873.

High Blood Pressure and Diabetes.—Kylin refers to his clinical studies on capillary pressure, which resulted in dividing high blood pressure into two types—a type of arterial blood pressure without increase in the capillary pressure and a type with such increase. The first type he found in uncomplicated benign nephrosclerosis, and the second type in acute diffuse glomerulonephritis. Krogh in his researches in 1920 gave the physiologic basis for this classification by showing that the arterial and the capillary systems, each regulated by its special mechanism, react and function independently of one another. In the present article Kylin discusses the first type, "simple arterial hypertonia." In this type the blood pressure findings vary markedly between morning and evening. The differences may amount to 75 mm. of mercury, the values being usually higher in the evening. From this fact it is evident that instability of the blood vessels is a more pronounced factor in this type of hypertonia than the high blood pressure itself. He noted further that diabetes was frequently associated with hypertonia. In 16 diabetics under 40 the blood pressure was usually around normal, but in 42 above this age, high blood pressure seemed to be the rule. There seems to be some connection between lymphocytosis, decreased tolerance for carbohydrates, and vasolability with a tendency to increases in blood pressure. He is inclined to believe that these phenomena constitute a connected series of pathologic events, and he suspects that all these symptoms are the result of one and the same pathologic process, whose etiology, pathology, symptomatology, prognosis and therapy are not yet sufficiently well known. He is pursuing his investigations further.

Nederlandsch Tijdschrift v. Geneeskunde, Amsterdam

Nov. 5, 1921, 2, No. 19

- *Uremia and Hippuric Acid Output. I. Snapper.—p. 2284.
Rebellious Malaria. P. H. Kramer.—p. 2289.
Injection of Cod Liver Oil in Cold Abscesses. Kijzer.—p. 2295.
Grave Dysentery in Flanders. W. Kremer.—p. 2300.
Cephalic Presentation with Leg Preceding. L. L. Bakhoven.—p. 2301.
*Drugs Credited with Magic Properties. M. A. van An del.—p. 2302.

Retention of Nitrogen in Relation to Hippuric Acid Elimination.—Snapper's further research in this line has demonstrated that the elimination of hippuric acid did not vary in cases of contracted kidney even when the nitrogen content of the blood was low. Under test ingestion of 5 gm. of sodium benzoate, a distinct disturbance in the elimination of hippuric acid was observed only in cases in which there was already retention of urea up to 1 gm. per liter of blood serum.

Classic Magic Remedies.—Van An del gives a historical sketch of some of the substances which were credited with magic power centuries ago. He discusses in particular unicorns' horns. His review of the literature on this famous remedy fills twelve pages, but he says that he has been unable to discover the reasons for the great importance ascribed to it. He relates that in the sixteenth century the church of St. Maria at Utrecht is said to have cherished two unicorn horns as its most precious possession, and many writers refer to the magic and therapeutic value of pulverized unicorns' horns. The first description of this fabulous animal is found in Pliny's "Historia Naturalis," and it always seemed to be synonymous with strength and wildness, as is evident even in the references in the Bible.

Nov. 12, 1921, 2, No. 20

- Notes on Normal Cell Growth. M. W. Woerdeman.—p. 2368.
*Cultivation of Tissues Outside the Organism. W. F. Wassink.—p. 2377.
*Plant Tumors. Johanna Westerdijk.—p. 2384.
*Serology of Cancer. N. Waterman.—p. 2388.
*Experimental and Other Tar Cancers. H. T. Deelman.—p. 2395.
*Cancer Questions. W. M. de Vries.—p. 2415.

Tumors in Children. J. de Bruin.—p. 2443.
Cutaneous Epitheliomas. S. Mendes da Costa.—p. 2456.
Operative Treatment of Tumors. J. H. Kuijjer.—p. 2466.
Radiotherapy of Cancer. G. F. Gaarenstroom.—p. 2480.
Organization of Cancer Research. J. Rotgans.—p. 2496.

Cultivation of Tissue Outside of Organism in Relation to Cancer.—Wassink says that cultivation of tissue in vitro has answered the question as to the behavior of tissue cells entirely free from nerve and hormone influence. Tissue cells cultivated in vitro can be kept proliferating for a period far surpassing that of the normal span of life of the organism from which they were derived. Further experiments are needed as to what will happen when the tissue cells thus growing outside of the organism are implanted anew in the same or another organism. To date, the tissue cells have always been resorbed at once, except in Rhoda Erdmann's experiments. She succeeded in inducing a tumor growth from them when reimplanted in an animal kept on a vitamin-poor diet. Attempts to cultivate cancer tissue outside of the organism fail on account of the almost inevitable infection of the scrap. It grows less rapidly than normal tissue, and it loses its virulence in a few days. The growth in vitro of mesenchymatous cells and sarcoma cells shows a tendency to dissociation and to migration of the tissue cells. Epithelial cells and carcinoma cells, on the other hand, extend by continuity. This corresponds to what is observed in the clinic, sarcomas spreading by metastasis as the loose cells are swept to a distance by the blood, while carcinoma spreads by simply extending its growth into the adjacent lymphatics.

Plant Tumors.—Westerdijk discusses the causes liable to be followed by a tumor growth in plants. She says that *Bacterium tumefaciens*, which seems to be the cause of crown gall in plants, was found repeatedly in soldiers during the war, possibly from eating raw vegetables with tumors of this kind.

Serodiagnosis of Cancer.—Waterman ascribes diagnostic importance only and exclusively to the meiostagmin reaction.

Experimental Tar Cancers.—Deelman reports research, begun in 1917, painting the ears of rabbits and the backs of white mice with tar three times a week. Twenty-six illustrations show the findings. In 26 of 48 white mice a carcinomatous ulcer developed and in the others a papilloma as the first stage of a cancer that developed later. These tar cancers resemble human cancers much more closely than spontaneous tumors in animals. The malignant growth that developed in Mouse 32 proved to be a spindle cell sarcoma, with metastasis in lung and pleura, although not in glands. This tumor was transplanted into other mice and has grown through eleven generations, to date, forming large tumors in six or seven weeks, the successful inoculations being 4 in 5; 2 in 6; 11 in 21; 13 in 21, and 7 in 10 in the first eight generations. The transplanted carcinomas did not "take," the tissue melting away in the abscess that formed, the primary tumor being always ulcerated. The tar from the gas works where horizontal retorts are used seemed to be more active than tar from vertical retorts, the malignant degeneration occurring sooner.

Cancer Questions.—De Vries presents the views of different clinicians on cancer, his own view being that we have reached a dead point in our research on malignant disease. Tar cancers and Fibiger's cockroach cancers seem to be the only progress realized to date. He suggests study of the number of chromosomes in the tissues as these experimental cancers are developing, seeking for atypical forms. Also study of whether a filtrate of these cancers will reproduce cancer, suggesting an invisible virus. He urges also attempts to isolate the special cancer-producing substance in the tar and in Fibiger's spiroptera. By examining for parasites the incipient cancers found at necropsies, the question of a parasitic origin might be settled. The diet in the ten years preceding gastric cancer should be investigated. Cancer of the stomach is exceptionally prevalent in the Netherlands and in Switzerland. In what way does the food in these two countries differ from the food elsewhere? Judging from tar cancers, a period of ten years for cancer in man is not too long for study of the diet from this point of view. The behavior of karyokinesis under roentgen irradiation should

also be studied, as cancer may develop under roentgen exposures. Each organ, and each type of cancer in each organ should be investigated separately.

Tumors in Children.—De Bruin found a neoplasm in 0.54 per cent. of the 4,447 children admitted to his internal medicine service at Amsterdam in the last twenty years, while there were 1.3 per cent. cases in the 4,758 children in the surgical ward and 7.32 per cent. among the 20,356 adults in the surgical service. These figures include 14 cases of sarcoma in children in the surgical ward and 10 in the medical service, while no instance of a carcinoma in a child was encountered in either.

Hospitaltidende, Copenhagen

Nov. 30, 1921, 64, No. 48

*Polyarthritis. P. Lorenzen.—p. 753.

*Experimental Tar Cancers. J. Fibiger and F. Bang.—p. 51.

Classification of Polyarthritis.—Lorenzen explains that the present classification of polyarthritis is defective. He claims that it should be based on the nature of the infection and on the constitutional predisposition, whether this is from auto-intoxication, or from anomalies in bone or nerve tissue, and, with the latter, whether there is a tendency to neurotrophic or vasomotor derangement or to local contracture or paralysis.

Experimental Tar Cancers.—Fibiger's article is published in Society Proceedings, with separate paging. He gives a historical sketch of the cancers that have been found in man from irritation with soot, pitch, etc., from Pott's first description of chimney sweeps' cancer in 1775 to date, and reviews his own work with cancers induced in mice by painting the back with coal tar. He has been more constantly successful in this line than others so far, fully twenty-four of his twenty-six mice developing carcinoma (carcinoma-sarcoma in two) and the other two developing papillomas. One carcinoma was transplanted through four generations in four months, with "takes" in from one to six of the animals in each generation. In Fibiger's 100 cases of spiroptera cancer in the mouse stomach he found only one that had induced metastasis in glands. [A more recent communication from Fibiger reports metastasis in twenty-two of eighty-six mice with tar carcinomas or sarcomas. The metastasis was in the axillary glands and lungs in most of the animals but occasionally in the heart or glands elsewhere. The young mice developed the cancers as readily as the older mice. He adds that Seedorff in his institute at Copenhagen has succeeded in inducing an actual adenocarcinoma in the mammary gland of a mouse treated with minute amounts of tar over a long period; this is the first experimental mammary adenocarcinoma to be published. Fibiger remarked that these tar cancers put the finishing stone to Virchow's theory of the causal importance of irritation in cancer, but the fact that cancers do not invariably develop proves that a predisposition is indispensable. There seems to be also an organ predisposition; he has never succeeded in inducing a spiroptera cancer in the esophagus of the animals, in his hundreds of attempts. Only the stomach develops these spiroptera tumors. He adds that it is dubious whether even aberrant embryonal cells are capable of developing cancer without some extraneous irritation to start them to malignant growth. His article appeared in the *Deutsche medizinische Wochenschrift* of Dec. 1 and 8, 1921.]

He cites about fifteen research workers who between 1889 and 1916 had been striving to induce malignant tumors by repeated application of pitch, tar, anilin, etc. All were on the right track, but none kept up the experiments long enough until the Japanese reported in 1918 their success in twelve of 200 rabbits, with glandular metastasis in three. Fibiger and Bang have obtained positive results in 90 per cent. of the white mice which survived for at least three months after the first painting with the tar. Tsutsui has reported 50 per cent. of "takes," and Bierich up to 60 per cent. Rabbits seem to be less susceptible than white mice. The attempts to induce sarcoma of the liver in rats with cysticercus infection have always failed although sarcoma of the liver is comparatively common in wild rats infested with cysticercus. Only one instance is known in a house mouse.